

QUARTERLY¹ INSIGHTS

FROM CRISIS TO TRENDS

Trend-following opportunities
in COVID-19 post-crisis inflationary markets

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Executive summary

The COVID-19 pandemic has upended nearly all aspects of life and is reshaping the world in every dimension. Actions by governments and central banks but also societal and behavioral changes in response to the pandemic had profound effects on equity, bond, commodity and currency markets. In this note, we observe that the COVID-19 crisis – like other major crises in the past – has given rise to plenty of opportunities for trend-followers, characterized by a breadth of powerful and concomitant market trends across all major asset classes. If trend opportunities since 2015 were largely in bond and equity markets, the last six months have seen the emergence and confirmation of powerful trends in multiple commodity and across major currency markets.

This attractive post-crisis market environment has had a substantial impact on the positioning of a typical CTA trend-following portfolio. We will show how risk exposures of such a portfolio have shifted throughout the initial months of the pandemic and later on as a consequence of the new post-crisis trend landscape. We highlight how, and how quickly, the adaptive nature of a CTA trend-following approach changed the risk factor profile of such portfolios, taking into account the dynamics of cross asset class correlations. We conclude that diversified trend-followers are well positioned to capture the upside of a potential continuation of a post-crisis inflationary market environment with increasing equity, energy and commodity prices, a further depreciation of the US Dollar and rising global yields.

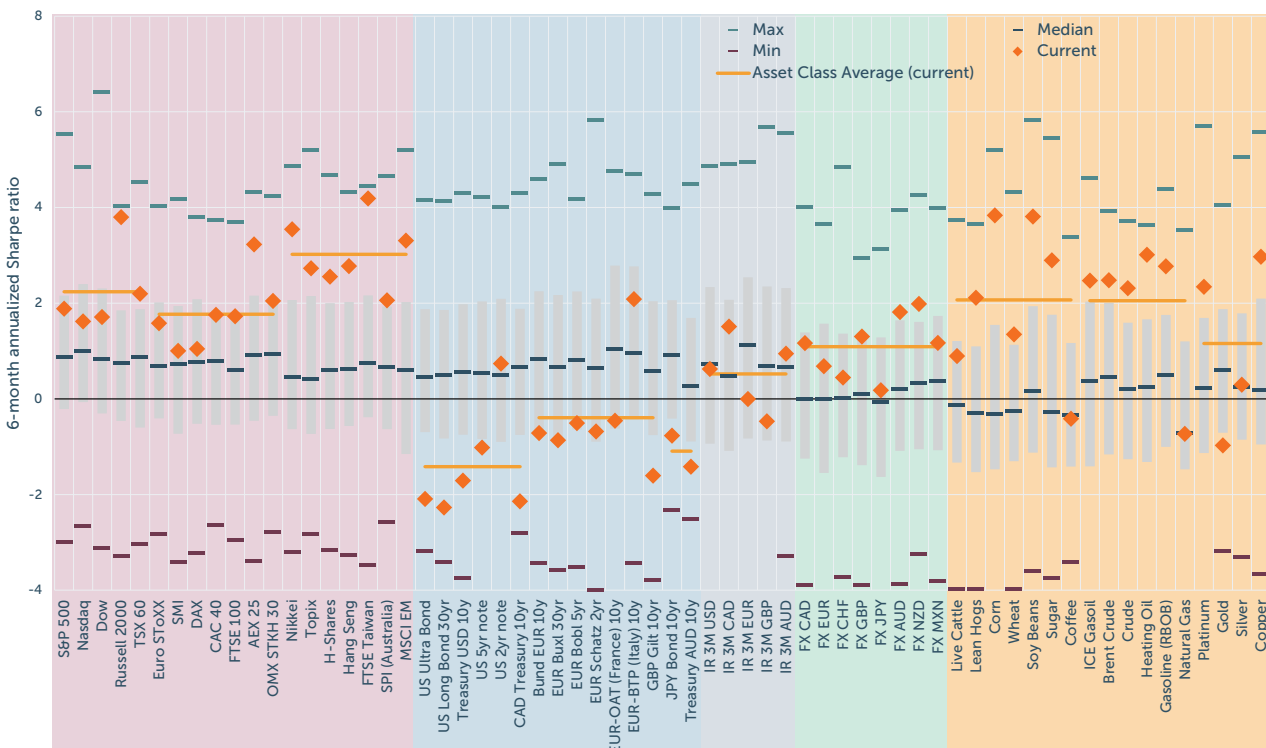


Figure 1: Current (as of 19.02.2021) six-month Sharpe ratios vs their historical distribution since 01.01.2005 for 64 of the most liquid futures markets globally, grouped by asset class.

A post-crisis market environment driven by a variety of trends across major asset classes

Following a month of panic across global financial markets, marked by brutal volatility and a liquidity dry-up in a variety of markets and a general re-pricing of risk, the pandemic has quickly given rise to a new market environment with the divergence between fundamentals and price action reaching extreme levels. While a few individual assets attracted the bulk of public and media attention following extreme upside price action dynamics (most prominently Bitcoin, certain US technology stocks or the most shorted US equities), many more markets across asset classes have displayed consistent one-sided price dynamics on both an absolute and a risk-adjusted return basis.

In this paper, we will discuss the most relevant trends focusing on the most liquid futures markets globally. To do so, we quantify risk-adjusted returns of individual futures markets on a six-months rolling time window, and compare current to historical long-term average values since 2005. Data in all charts is shown up until 19 February 2021.

Figure 1 presents the results of such analysis, applied to a list of 64 of the most liquid futures markets globally, grouped by asset class. The rolling time period of six months is chosen to be consistent with the typical lookback window of a medium- to long-term trend-follower. It allows identifying and capitalizing on persisting trends over an investment horizon of multiple months.

As is implied by Figure 1 above, the current market environment is dominated broadly by four major trends:

Long global equities...

...and more particularly US, technology, small-cap, Asian and Emerging Markets focused equity indices. Since September 2020, the six-month

rolling Sharpe ratio of broad baskets of US and Asian / Emerging Markets equity index futures has evolved within a range between 1.5 and 3, and between 2 and 4, respectively. Figures 2a and 2b outline how the current values compare to their long-term historical averages since 2005.

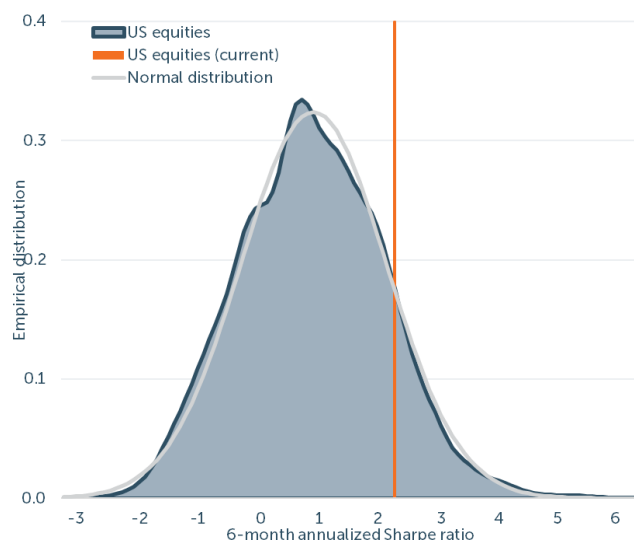


Figure 2a: Current 6-month Sharpe ratio (as of 19.02.2021) vs historical distribution for US equities (since 2005)

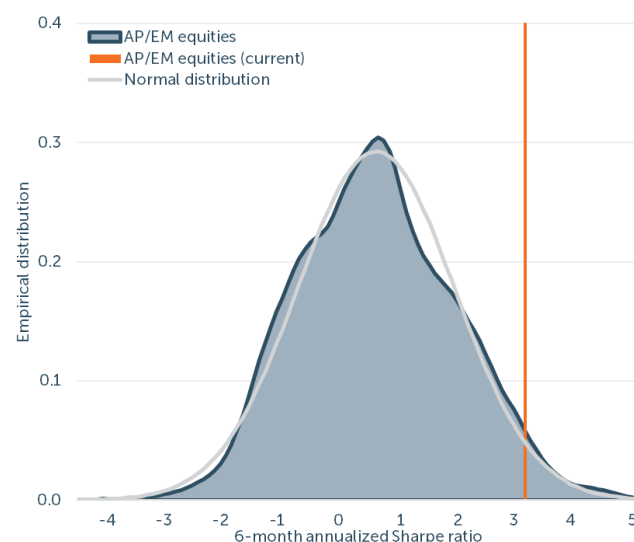


Figure 2b: Current 6-month Sharpe ratio (as of 19.02.2021) vs historical distribution for Asia-Pacific/Emerging Markets equity index baskets (since 2005)

Short US Dollar

If taking the US Dollar Index (DXY) as a proxy, the US Dollar has depreciated by more than 11% from its latest peak mid-March 2020. Taking an equal-weighted basket of the most liquid FX futures, the realized Sharpe ratio of holding a long position in such basket over the last six months is above 1. Figure 3 shows that such a value, although not unprecedented, is clearly above average.

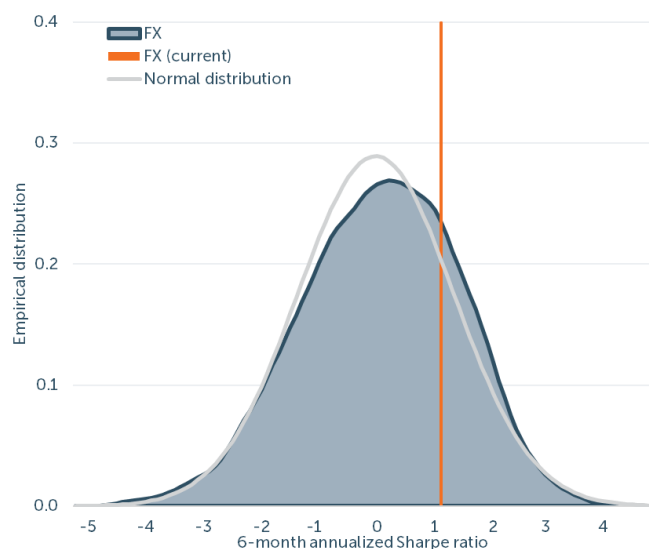


Figure 3: Current 6-month Sharpe ratio (as of 19.02.2021) vs historical distribution for basket of the most liquid FX futures globally (since 2005)

Short US duration

Over the last six months, the generic 10-year US Treasury yield has been on a steady rise off the lows it reached beginning of August 2020. A short position in an equal-weighted basket of the three most liquid long duration US bond futures achieved an annualized Sharpe ratio of up to 2 over the last six months. As Figure 4 shows, this value is within the lower quantile of the historical distribution of an equivalent long position.

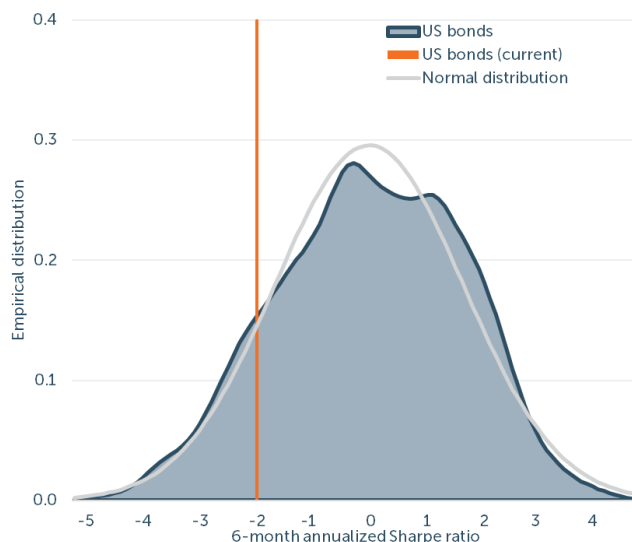


Figure 4: Current 6-month Sharpe ratio (as of 19.02.2021) vs historical distribution for US 10-year, 20-year, 30-year US Treasury notes (since 2005)

Long commodities

Oil, most base metals and agricultural markets have been on a continuous rise since summer 2020. The annualized six-month Sharpe ratio of a basket of energy futures has reached 1 lately, and that of Copper is in the upper quantile of its historical distribution. Maybe the most impressive price action on a historical and risk-adjusted basis has been observed in the markets for soybeans and corn. Strong upward momentum in both markets has translated into an annualized six-month return-on-risk ratio in excess of 4 for both markets, amongst the highest levels in the last 16 years (see Figure 5).

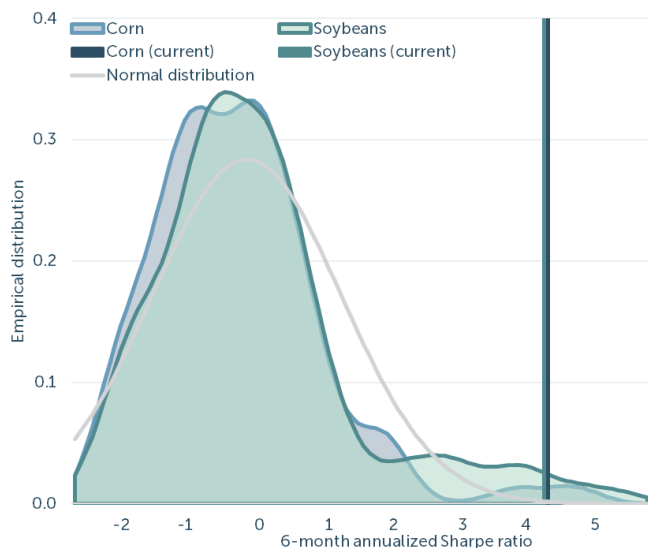


Figure 5: Current 6-month Sharpe ratio (as of 19.02.2021) vs historical distribution for corn and soybeans futures (since 2005)

How does the simultaneous occurrence of strong trends translate into profitable return opportunities for trend-followers?

Observing trends is a backward-looking exercise, conducted with the benefit of hindsight. Capturing trends in a profitable way is an entirely different and more challenging endeavor. To quantify how trend-followers have capitalized on those recent trend opportunities, we will rely on two proxies:

- SG Trend Index¹: With a 20-year history, this index acts as a global industry benchmark and is composed of the ten largest trend-following programs.
- A generic implementation of a trend-following program, as was introduced in April 2020 as part of our first Quarterly Insights publication (Quantica Capital, April 2020)². In fact, the generic trend-following model delivers very similar risk/return characteristics as the SG Trend Index and allows replicating and analyzing the CTA industry in more detail. The correlation between the generic model

and the SG Trend Index amounts to 0.89 since 2005 and 0.85 since January 2020.

Figures 6a and 6b compare the net pro-forma returns of the generic trend-following model to those of the SG Trend Index since 2005 and 2020, taking into account reasonable management and performance fee assumptions for the model.

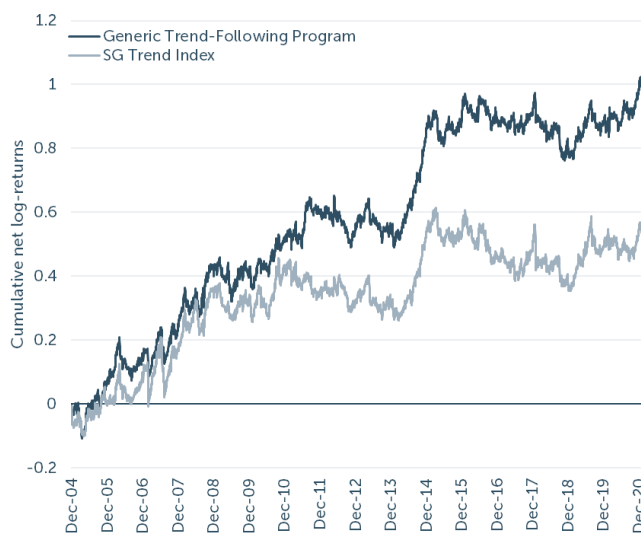


Figure 6a: Comparative net log-returns of a generic trend-following strategy (net of management and performance fees) and the SG Trend Index. 01.01.2005-19.02.2021. Source: Quantica Capital, Societe Generale

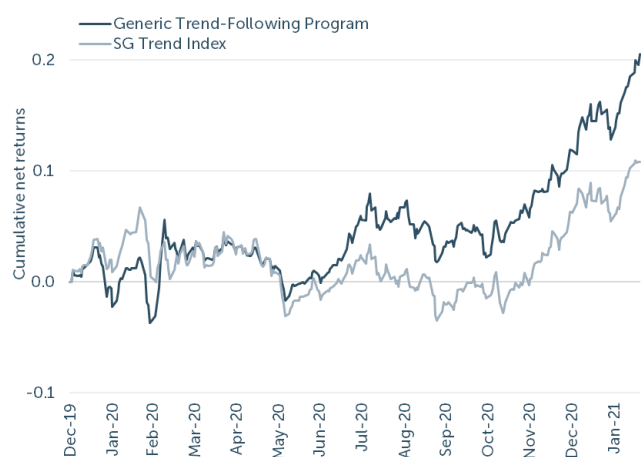


Figure 6b: The COVID-19 crisis has given rise to multiple opportunities that were profitably captured by trend-followers. Cumulative net returns 01.01.2020-19.02.2021 of a generic trend-following strategy (net of management and performance fees) and the SG Trend Index. Source: Quantica Capital, Societe Generale

Figure 7 puts the approaches' average risk-adjusted return achieved over the last six months into historical perspective. The rolling six-month Sharpe ratios lie in the tails of the historical distribution since 2005 and amount to 2.89 for the generic model and 2.25 for the SG Trend Index. This shows that trend-followers were indeed able to adapt to and profit from the emergence of the above-described new and strong post-crisis trends across multiple asset classes.

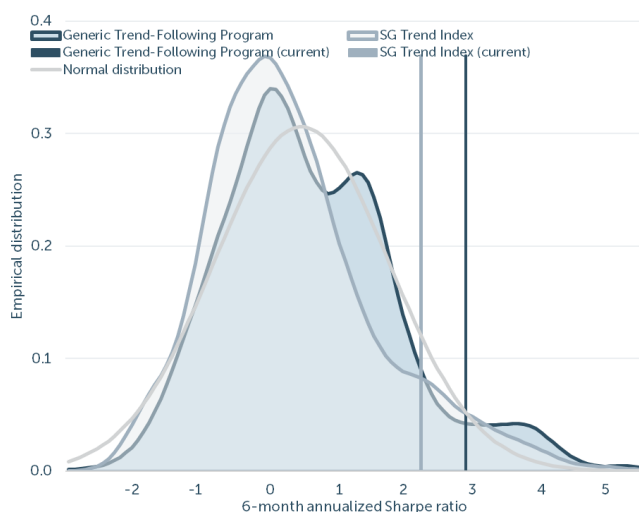


Figure 7: Current (as of 19.02.2021) vs historical distribution (since 2005) of six-month rolling annualized Sharpe ratios for a generic trend-following strategy and the SG Trend Index

So far, we have looked back at recent history and described the general post-crisis trend characteristics that have recently shaped up global financial markets.

In the remainder of this note, we will look deeper into how – and how quickly – the risk exposures of a typical trend-following program have changed and adapted to the new post-crisis environment.

Decomposing the main risk exposures of a trend-following program

For estimating the dynamics of risk-factor exposures of a typical trend-following CTA, the generic trend-following model is better suited

than the SG Trend Index. Knowing the exact portfolio components and exposures allows to break down the model's exposure to each risk factor by instrument sub-groups or asset classes over time.

Diversified trend-followers build a portfolio of directional long or short exposures in each asset class. As a good proxy to capture the risk originating from each of the four main asset classes (equities, fx, fixed income, commodities), we consider four main single risk factors:

- S&P 500 index
- US Dollar index (DXY)
- 10-year US Treasury Note
- WTI oil

For each of the 64 instruments in our investment universe, we estimate the beta against those factors on a daily basis, based on an exponentially weighted ordinary least squares (OLS) regression model. The beta of a group of instruments or an asset class to a given risk factor is then defined as the weighted sum of the group's constituents' betas to this risk factor. This method allows us to break down the total risk exposure against any risk factor into each asset class' single contributions.

Positions in all asset classes contribute to long equity market risk

Figure 8 shows the generic trend-following model's beta to the S&P500 index broken down by asset class for the period January 2020 to 19 February 2021. It illustrates nicely how the trend-following strategy reduced the equity risk exposure from a pre-crisis equity beta of 1-1.2 to an overall negative beta of -0.3 at the heat of the crisis in March 2020. Interestingly, this reduction and eventually negative equity market risk exposure was heavily supported by the building up of *diversifying* long fixed income and commodities positions (mainly short energy and long metal positions).

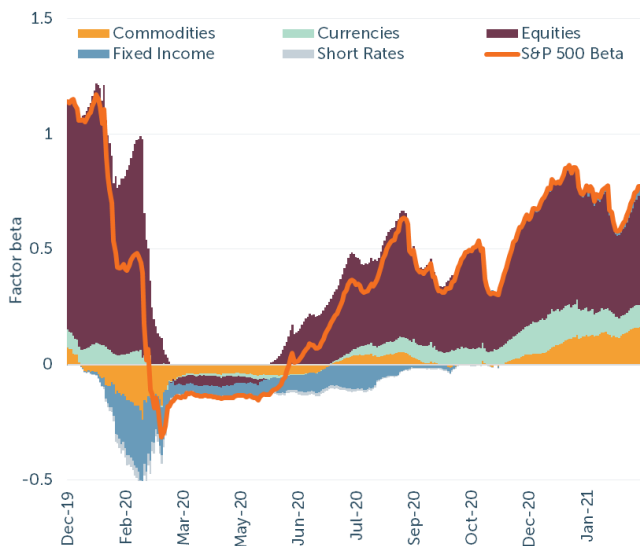


Figure 8: Beta of the generic trend-following model to the S&P 500 broken down by asset class. 01.01.2020-19.02.2021

Reflecting the rally in global equity markets since April 2020, the generic trend-following strategy started to rebuild positive equity risk exposure in June 2020 and currently displays a positive beta to the S&P 500 of 0.65 (i.e. a -1% index return translates into an expected portfolio loss of 65bps). Interestingly, though, 30% of this equity risk exposure can be attributed to the program’s current short US Dollar and long commodities exposures. Since September 2020, there is no equity risk diversification left stemming from exposures in other asset classes.

Finally, it is worth highlighting that a year ago, just before the crisis started, the generic trend-following model’s equity beta reached 1.2, a value twice as high as what it is today. Back then, more than 90% (versus 70% today) of this beta could be attributed to equity positioning alone. This reflects a more diversified set of trend opportunities that the generic trend-following model can capitalize on, as we will outline in the remainder of this note.

Positions in all asset classes contribute to short US Dollar risk

Figure 9 outlines the generic trend-following model’s sensitivity to the US Dollar index since January 2020.

The risk position to the US Dollar changed dramatically throughout the year, from a high pre-crisis beta of 1 to a significant negative beta of -2 at the end of last year. The risk exposure to the US Dollar was predominantly driven by positions in the equity and fixed income sectors during the first half of 2020. However, an important observation is the reverted diversification benefit of equity positions: while pre-crisis long equity positions added to a *positive* contribution to the Dollar risk exposure, post-crisis, the inverted cross asset class correlations led long equity positions to add to *the short side* of the program’s Dollar exposure. Similar to the equity risk attribution analysis done above, there is currently no diversification to the short Dollar risk exposure coming from other asset classes, and roughly half of such risk exposure can be attributed to equity and commodity positions.

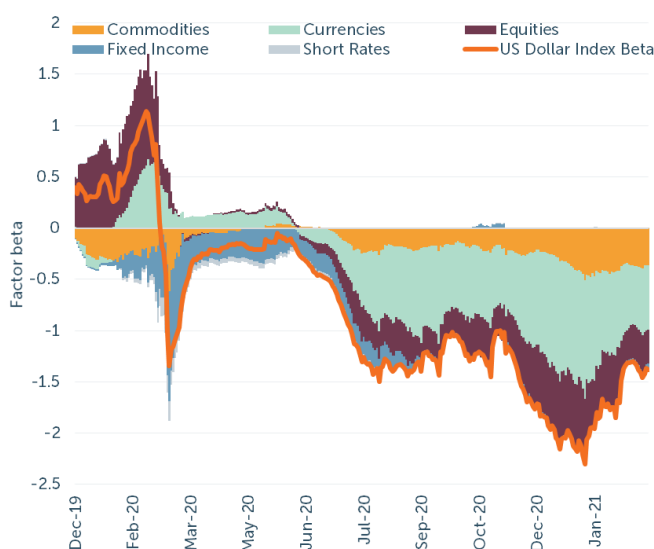


Figure 9: Beta of the generic trend-following model to the US Dollar (DXY) Index, broken down by asset class. 01.01.2020-19.02.2021

Positions in all asset classes contribute to short fixed income risk

Figure 10 shows the decomposition of the generic trend-following portfolio's beta to the 10-year US Treasury Note. It started 2020 with a negative beta to bond price appreciation or positive beta to yield declines and increased risk exposure quickly after the outbreak of the crisis in February. At the heart of the COVID-19 crisis in March, the model's aggregate beta to bonds increased to above 2.5, hence diversifying the long equity risk exposure.

In August, the portfolio's positive beta to bond prices inverted as yields started to rise off their all-time lows during summer, leading to a scaling back of long bond positions.

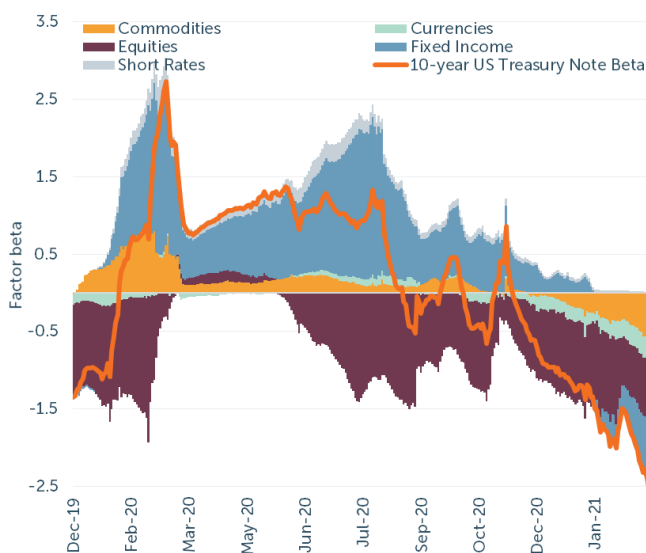


Figure 10: Beta of the generic trend-following model to the 10-year US Treasury Note future, broken down by asset class. 01.01.2020-19.02.2021

Today, the beta of the generic trend-following strategy to fixed income again reached a significantly negative level of -2.5. As a result, the generic trend-following portfolio is well-positioned to benefit from a further increase of global yield levels in a reflationary environment. Again, in confirmation of our earlier observations made on the equity and Dollar risk factors, other asset classes do not currently add any

diversification to the yield risk factor. In fact, equity, commodity and FX positions all contribute to a negative fixed income beta.

Positions in all asset classes contribute to long energy price risk

Finally, Figure 11 depicts the portfolio's risk sensitivity and risk decomposition to crude oil. The generic trend-following portfolio swiftly adapted to the impressive post-crisis recovery of energy prices. After having built up a material short risk exposure to oil during the crisis months of February and March 2020, such risk exposure eventually turned positive in the second half of the year and has continued to rise since then. At the time of writing, all asset classes contribute to the positive beta to oil, while only half of the total risk exposure to oil is attributable to commodity positions.

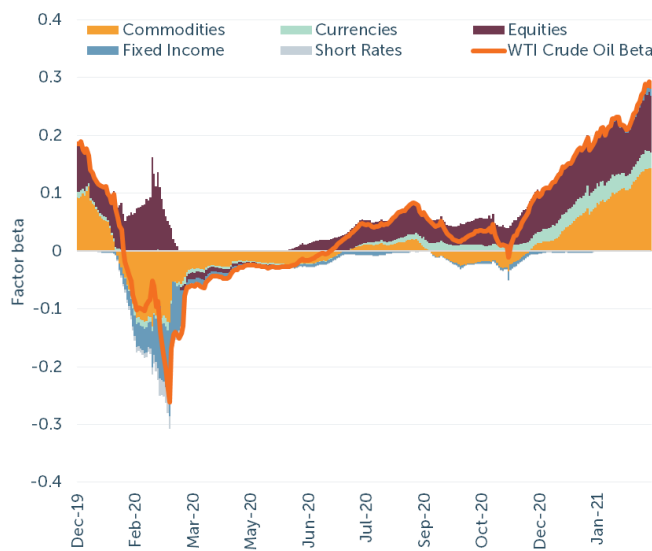


Figure 11: Beta of the generic trend-following model to the WTI oil future, broken down by asset class. 01.01.2020-19.02.2021

Conclusion

The COVID-19 pandemic has given rise to an attractive market environment for trend-followers, characterized by a combination of four concomitant and persistent trends: long equities and commodities, short Dollar and fixed income. Many sub-groups of instruments within these asset classes, such as US technology or small-cap equities, Asian and Emerging Markets equities, base metals and commodity sensitive currencies, or grain markets have displayed risk-adjusted returns over the last six months that must be qualified as exceptional when compared to their long-term historical distribution.

We have shown how a diversified trend-following CTA was able to capitalize on those post-crisis trends. By using a generic medium- to long-term trend-following strategy as a proxy for a trend CTA, we have estimated the factor exposures of such proxy against four of the main global risk factors (S&P 500, US Dollar, 10-year US Treasuries and WTI crude oil).

Our analysis illustrates how quickly trend-followers adapted to the post-crisis market environment and how the different asset classes add to the decomposition of those risks. We conclude that at time of writing, the positioning of trend-following CTAs appears to be highly directional against all four risk factors: long equity, short dollar, short fixed income and long energy.

Since 2015, persistent trend opportunities have been mostly restricted to two of those risk factors: long equity and fixed income risk. With their current risk allocation, trend-followers seem well prepared – for the first time in more than five years – to capture the upside of a potential continuation of a post-crisis inflationary market environment with increasing commodity prices, a further depreciation of the US Dollar and rising global yields.

References

¹ SG Trend Index: <https://wholesale.banking.societegenerale.com/en/prime-services-indices/>

² Quantica Capital, "Why speed matters", *Quantica Quarterly Insights*, April 2020

Quantica's generic trend-following strategy models *medium- to long-term* trends with exponentially weighted averages of risk-adjusted past returns on a universe of 64 of the most liquid futures globally across equity, bonds, short-rate, commodity and currency markets. The resulting trend-strength for each instrument is a continuous, bounded function that is scaled by an exponentially weighted estimate of the instrument's volatility. The generic program is targeting an annualized volatility of 12%.

It differs significantly from Quantica Capital's proprietary trend-following approach that the firm has implemented within its flagship QMF Program since 2005.

Since 2003, Quantica Capital's mission has been to design and implement the best possible systematic trend-following investment products in highly liquid, global markets. To the benefit of our investors and all our stakeholders.

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