Statistical Arbitrage
Navigating deglobalisation

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When Markets Decouple: Can Statistical Arbitrage Bridge the Global Divide?

Key Themes:

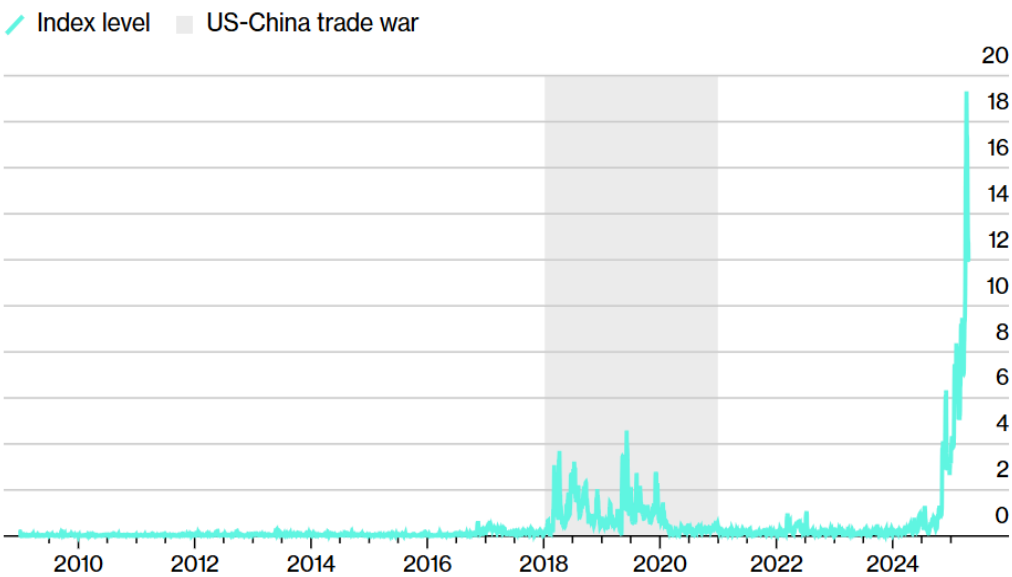
- An overview of stat arb strategies and their role for investors
- Is globalisation under threat? Exploring impacts of tariff wars & Central Banks actions on markets
- ABC's index and equity based stat arb in navigating market shifts

> *On April 2, 2025 "Liberation Day", the world witnessed United States president Donald Trump deploying extensive global tariff policies which he described as the **United States' "declaration of economic independence"***
> *Are we heading into a new world order which moves away from the era of hyper-globalisation that has been experienced since the early 2000s?*

Introduction

On April 2, 2025 “Liberation Day”, the world witnessed United States president Donald Trump deploying extensive global tariff policies which he described as the United States' "declaration of economic independence". Are we heading into a new world order which moves away from the era of hyper-globalisation that has been experienced since the early 2000s? It is widely accepted that we have lived in a globalised world for over thirty years with this position strengthening year by year. However, recently this view has been put into doubt as the Trump administration seeks to renegotiate terms of trade with the rest of the world, amid increasing geo-political conflicts and an uprising of nationalism among many countries. The latest wave of trade related uncertainty can be seen in the perceived magnitude of this risk as measured by the Bloomberg Economics Global Trade Policy Uncertainty Index (see figure 1).

FIGURE 1 - Bloomberg Economics Global Trade Policy Uncertainty Index



Source: Bloomberg Economics Global Trade Policy Uncertainty Index

The Bloomberg Economics TPU Index uses the same methodology as the indexes developed by Caldara et al. (2020), which involves counting how often terms related to both trade policy and uncertainty appear together in major media sources.

A question we ask in this article is around the impact of this potential paradigm shift on the efficacy of statistical arbitrage strategies (hereafter “Stat Arb”). Such quantitative techniques have been profitable through time, offering high risk-adjusted returns for investors, yet are based on historical observations. Today’s inflection point in how to model the global economy and predict movements of its underlying components, be it private or publicly listed assets, is an important concern for many investors. We advocate for a highly diversified approach to Stat Arb that can capture trading opportunities on both globally connected markets and local domestic markets, acting as a hedge to the risk in predicting effects of globalisation versus deglobalisation.

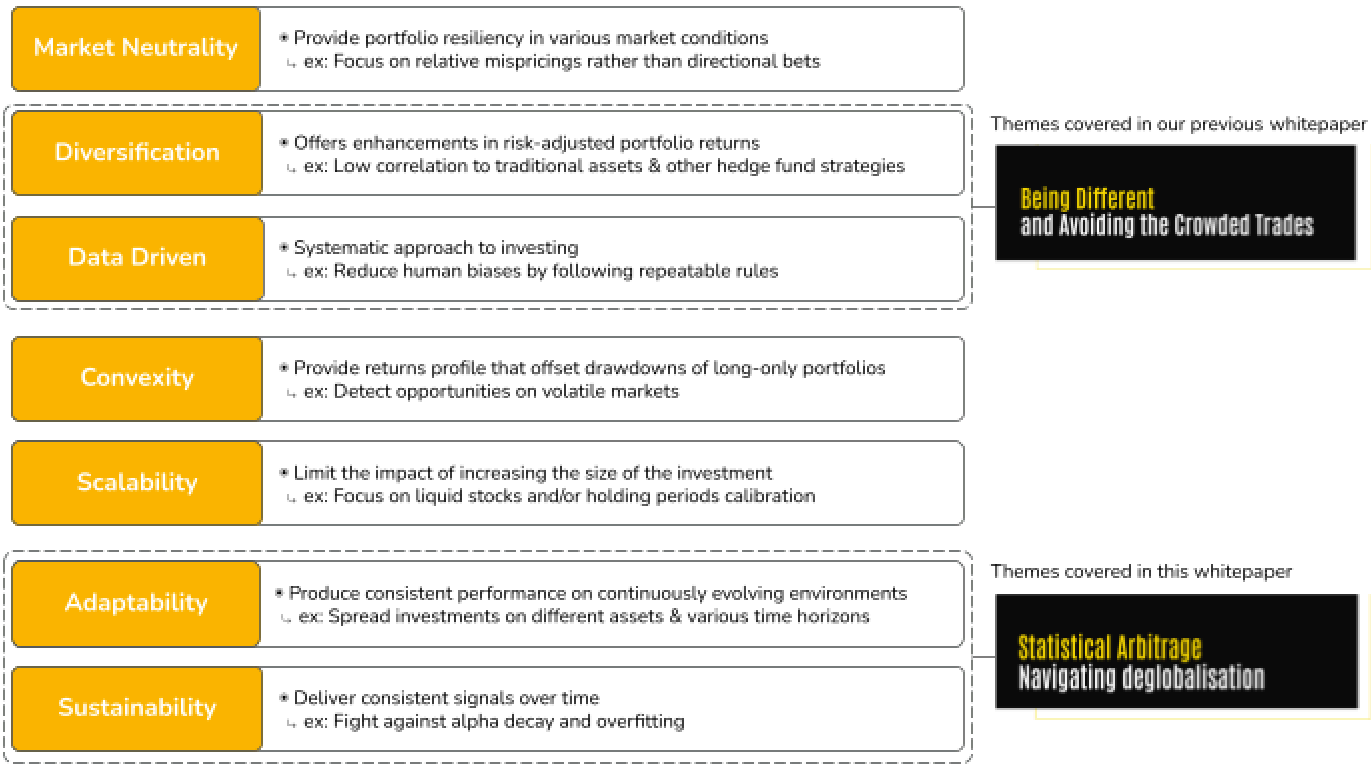
Part I: An overview of Stat Arb

Mean reversion trading - what and why?

Statistical arbitrage ("Stat Arb") uses market data (i.e. transaction prices, volumes, and order books information), fundamental data and alternative data, to uncover statistically significant patterns within the data or its derivatives (e.g. returns, volatility). These patterns are at the core of statistical signals like mean reversion, momentum, and event-driven strategies, which aim to forecast future returns often with low market beta at the portfolio level.

Mean reversion is a considerable component in Stat Arb. This type of alpha relies on identifying price fluctuations around a determined equilibrium level with the underlying theory that asset prices deviating from this "fair value" are expected to revert over time. This behavior arises from market inefficiencies, such as overreactions or supply-demand imbalances, creating opportunities to trade overbought or oversold assets.

Figure 2 - Standards and expected characteristics of Stat Arb for an investor portfolio



Link to our previous white paper: *Being Different & Avoiding the Crowded Trades*

Although there are multiple ways to exploit mean reversion phenomena, ABC arbitrage focuses on relative value spread trading, whereby a mean reversion signal is calculated and traded on a pair or basket of securities based on statistical dependencies. Our universe of assets consists of equities and equity related securities (e.g. equity index futures).

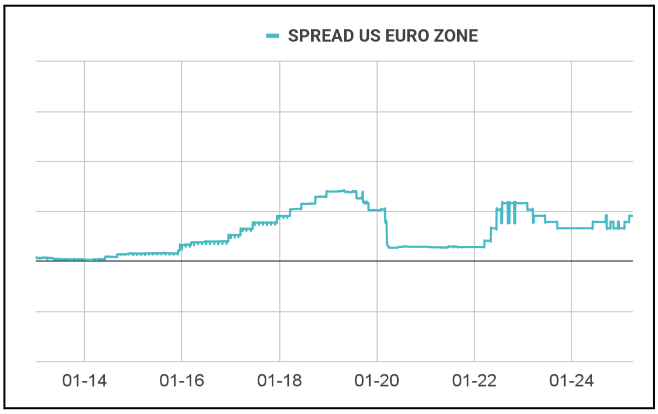
Today, institutional investors actively allocate to Stat Arb strategies, expecting certain features and standards which are outlined above in Figure 2. Amongst them two challenges, adaptability and sustainability remain particularly pertinent and topical under today's theme of highly uncertain context on globalisation.

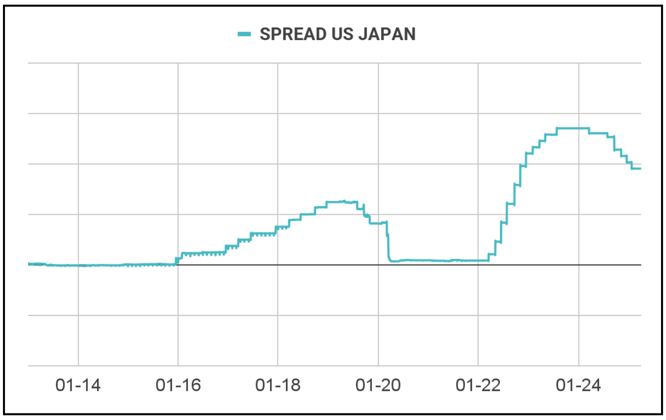
Part II: Understanding globalisation in financial markets

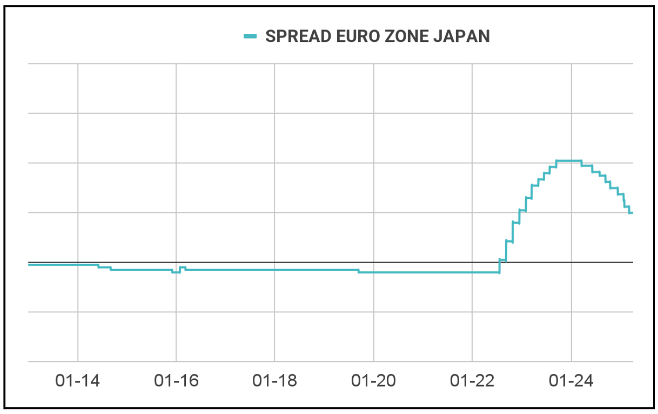
Measuring globalisation in interest rates and equities

Although there are many dimensions to analyse and measure globalisation, it generally centers around the connectedness and interdependence of the world's economies, cultures and populations. While the objective of this article is not to scrutinise this any further, we prefer to shed light on its relevance in equity markets from a statistical point of view.
From our perspective, globalisation increases cross-border development and hence, aligns major indices like the S&P 500, Eurostoxx 50, Nikkei etc. with global economic trends, while reducing country-specific risks. This kind of intermarket connectedness can also be observed during periods of turmoil, such as the 2008 Global Financial Crisis or more recently Covid-19 to quote the major events where countries' economic concerns align and as do their responses and actions. Deglobalisation, on the other hand, limits foreign capital inflows, and amplifies local market risk (for example weakening export-reliant indices) due to fragmented economies.
In these cases, markets tend to act more independently of one another.
Quantifying globalisation is nonetheless a complex exercise. One observable indicator is central banks coordination of monetary policy actions, as shown in Figure 3 below.

FIGURE 3 - SPREADS BETWEEN CENTRAL BANKS POLICY RATES







Selected Key Target Rates
- US → FED Overnight Deposit Rate
- EUROPE → ECB Deposit Facility Rate
- JAPAN → BOJ Uncollateralised Overnight Call Rate

Source Bloomberg

Each plot is a representation of the difference between two central banks' key interest rate targets, calculated as a spread (NB: the direction of the spread is more informative than the absolute level itself). Here, from a monetary policy perspective, we consider that countries can be seen as less aligned when the spread is moving.

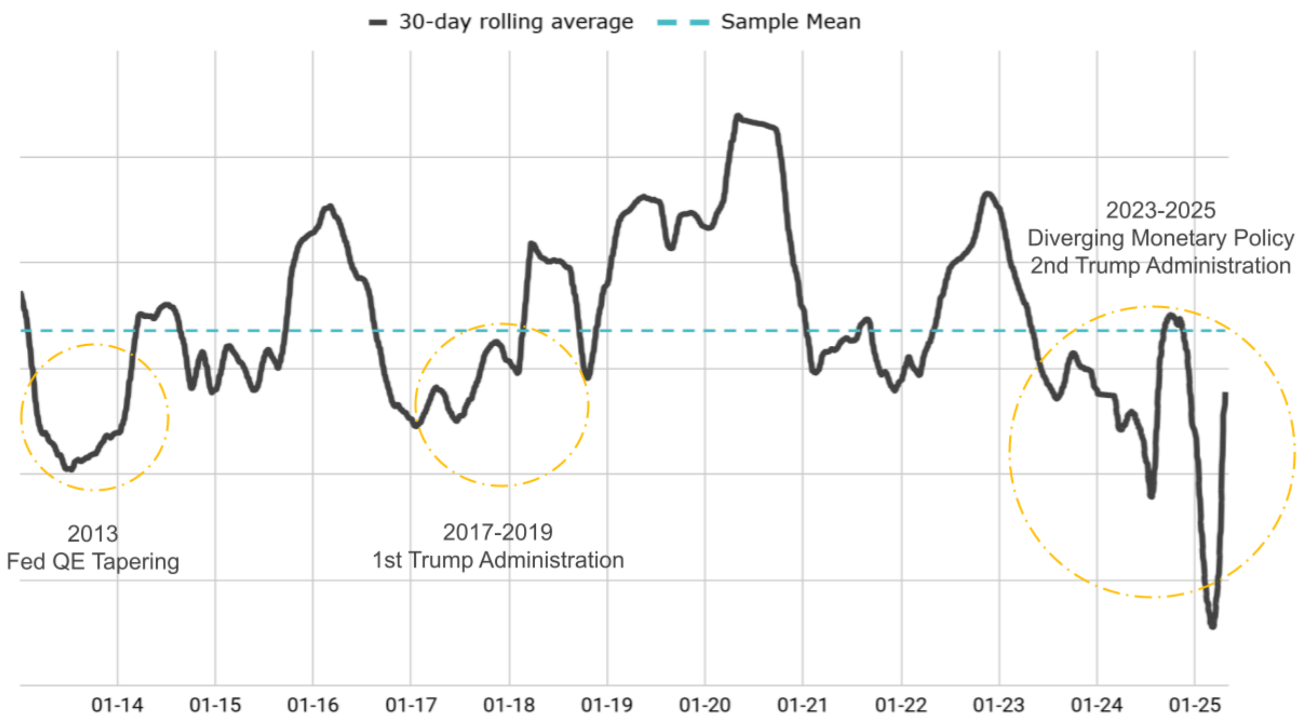
For example, if we focus on "US versus Euro Zone" and "US versus Japan" you can see that their policy actions become desynchronised from 2016 to 2019 and then again from 2022 onwards. During the outbreak of Covid-19 in 2020 and 2021, it can be seen that central banks were highly synchronised as indicated by the stable relative interest rate differentials over this period. An alternate way to view this is that their actions were globally aligned. Another significant period in misalignment arrives from 2022 to now as diverging monetary policies occur, driven by inflation and crucially the culmination of "Abenomics" policies in Japan, as seen by the US versus Japan and EURO Zone versus Japan spreads.

On a more quantitative than economic approach - like we use at ABC arbitrage - observing correlations between domestic stock markets can show insights into their connectedness. This is another way to see global market alignment and misalignment through time. In figure 4 below, we calculate a rolling "global correlation", an average of the correlations between the possible pairs of three major stock indices. The indices we decided to use as reference are the largest indices for each of three main regions, as represented by S&P 500 for the US, DJ Eurostoxx for Europe and Nikkei for Asia.

The sample average is indicated by the blue dashed line. We consider that above this average, the global correlation is strong while we can see that there are three standout periods where the correlation stays consistently below the average:

- 2013: Fed Tapering of Quantitative Easing
- 2017 - 2019: First Trump Administration before Covid
- 2023 - 2025: Diverging Monetary Policy and Second Trump Administration

FIGURE 4 - Global Correlation: 30-day Rolling Moving Average (S&P 500/ EUROSTOXX 50/ NIKKEI)



Sources : Bloomberg - ABC arbitrage AM

It is interesting to observe that between 2013 and today global stock markets remain consistently correlated with the exception of these three periods, and yet particularly less so in the last few years.

The following question we can ask is, what was the corresponding performance of Stat Arb strategies over the same period?

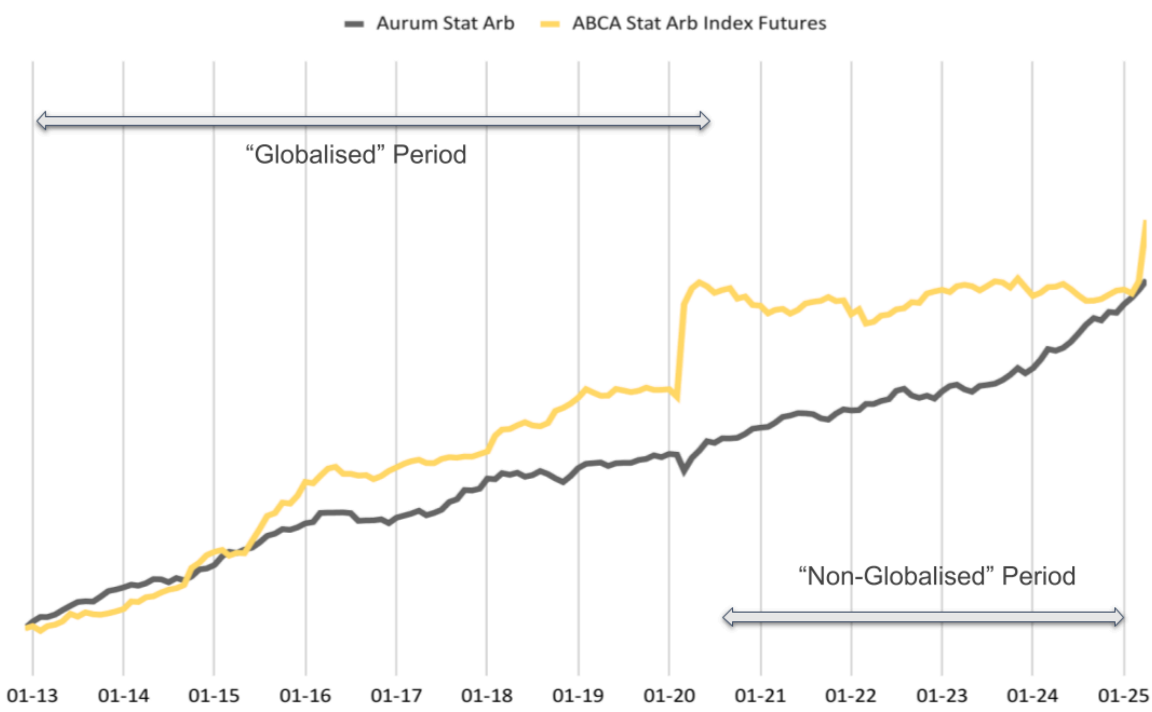
Part III: Stat Arb in navigating market shifts

Stat Arb Performance Analysis (2013 to Present)

This section analyses Stat Arb performance across the same market periods described above, thereby examining the profitability across a full market cycle amid the fluctuations of global alignment and misalignment. We also explain the strategic adjustments necessary to sustain long-term profitability of these strategies. The first analysis (Figure 5) concerns the ABCA Stat Arb on Index Futures strategy only, which predominantly exploits short and medium term mean reversion between Equity Indices. In a second step, we will explain how model adaptation and diversification, with addition of new models exploiting single equities, i.e. referenced as ABCA Stat Arb Equity, can bring robustness and steadiness to the performance (Figure 6).

ABCA Stat Arb on Index Futures has historically demonstrated robust performance throughout the period. However, its effectiveness has varied depending on the prevailing market structure. While thriving in a highly globalised environment, the strategy's performance has encountered challenges post-2022, where global economies' financial synchronicity has visibly declined (recall Figures 3 to 4).

FIGURE 5 - ABCA Stat Arb Index Futures vs Aurum Stat Arb



Sources : Aurum Hedge Fund Data Engine - ABC arbitrage AM

2013 to 2020: Globalised Context and Outperformance

Between 2013 and 2020, a highly globalised financial system enabled strong inter-market correlations, creating a favourable environment for Stat Arb on equity index futures. During this period, the ABCA Stat Arb on Index Futures strategy capitalised on the following factors:

- The global alignment of economic cycles led to strong co-movements between major equity indices.
- The persistent statistical relationships between index pairs provided consistent opportunities for short-term and medium-term reversion trades.

As a result, ABCA Stat Arb on Index Futures strategy significantly outperformed the Aurum Stat Arb Index, a benchmark for systematic mean reversion strategies (Figure 5), and especially in the periods where globalisation was at its highest level. Superior execution algorithms and model refinement enabled consistent excess returns, strong sharpe ratio and drawdown control. However, three years stood out as outliers during this period: 2016, 2017 and 2019. These periods notably coincide with the episodes of decorrelation between global indices previously seen.

2021 to 2025 : Non-Globalised Context and Performance Challenges

The market structure, especially since 2022 has undergone fundamental shifts, leading to obstacles for index-based Stat Arb. Several key factors have contributed to these challenges:

- The fragmentation of global financial linkages and geopolitical tensions have weakened inter-index arbitrage opportunities, as major equity indices exhibited lower correlation as exhibited in Figure 4, reducing the efficacy of traditional statistical relationships.
- Central banks persistent intervention in financial markets has dampened natural price oscillations, further limiting arbitrage opportunities.
- A sustained decline in index volatility, particularly in 2023 and 2024, with historically low S&P 500 realized volatility, has reduced the frequency and magnitude of mean-reverting price movements, impacting profitability.

As a result, the performance of ABCA Stat Arb on Index Futures strategy, while still competitive, has faced greater drawdowns and increased periods of stagnation compared to the pre-2022 period.

We have to highlight the April 2025 sharp deglobalisation shock, following renewed U.S. tariffs from the Trump administration leading to a temporary rise in global market correlation. This environment has been particularly favorable for ABCA's Stat Arb on Index Futures.

The performance comparison with the benchmark Aurum Stat Arb Index from January 2022 to January 2025 highlights these difficulties (Figure 5), with a clear divergence between historical and more recent returns.

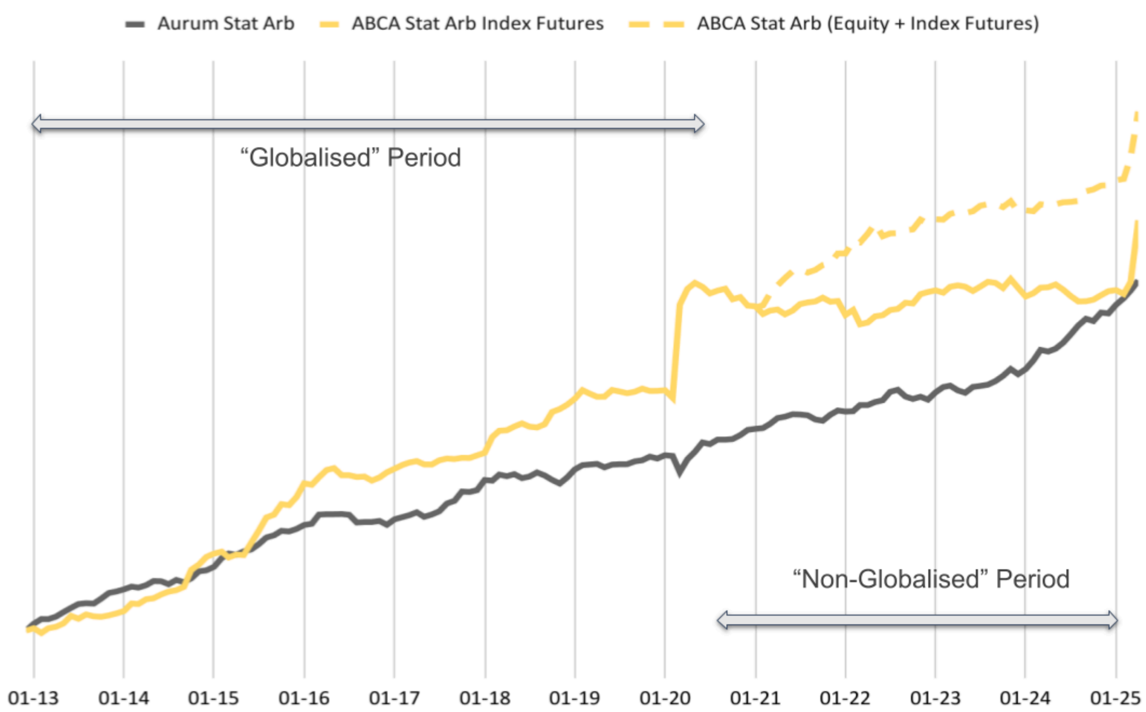
However, what is promising is the performance of the benchmark index, which typically comprises funds trading equity based stat arb, and therefore less dependent on global relationships between markets. An important lesson in diversification can be taken from this.

Adapting to the Non-Globalised Context: The Role of Stat Arb Equity

A broader deployment of equity-based Stat Arb provides an effective response to the structural market shifts observed since 2022, helping to offset the declining performance of index futures strategies. The ABCA Stat Arb Equity strategy follows a similar trading approach to its sister strategy on futures, albeit with complimentary, uncorrelated performance. Adding this approach provides three clear advantages:

- It captures stock-level volatility that is caused by company-specific events such as earnings revisions, corporate transactions, and sector rebalancing that introduce exploitable price dislocations.
- It diversifies return drivers, by integrating equity-based arbitrage reducing exposure to declining global correlations between indices. This diversification enables the strategy to extract alpha from localized inefficiencies even during muted index volatility.
- It enhances performance stability and robustness across macro regimes in combining equity and index Stat Arb. The dual approach allows the portfolio to dynamically balance between the different return sources.

FIGURE 6 - ABCA Stat Arb Equity + Index Futures vs Aurum Stat Arb



Sources : Aurum Hedge Fund Data Engine - ABC arbitrage AM

Figure 6 illustrates the impact of this diversified strategy mix (dashed yellow line), highlighting improved resilience in a non-globalised environment from mid 2022 to date. This diversified Stat Arb strategy mix including both ABCA Stat Arb Equity and ABCA Stat Arb on Index Futures strategies successfully demonstrates adaptability in response to evolving market conditions. While the globalised environment from 2013 to 2021 provided an optimal setting for index futures-based mean reversion (seen in yellow in Figure 6), the transition towards a less globalised, more fragmented market post-2022 necessitated the diversification and adaptation towards equity-based Stat Arb at the single stock level by opposition to the Index level.

CONCLUSION

2025 is shaping up to be an exceptional environment, where Trump de-globalisation shock - ironically - produced a local re-synchronization of market narratives. Both Stat Arb on Index Futures and Stat Arb Equity strategies benefited from this phase. Elevated correlations improved the signal strength for inter-country strategies, while increased equity volatility within domestic markets created more opportunity for single stock strategies.
In the long run if the world does become more fragmented, domestic equity markets will be rich in uncertainty, and so ripe with opportunities.

ABC arbitrage's statistical framework is designed to adapt to shifts in the macro economy and market microstructure.
By having both index-level and single-stock signals, the firm reduces its exposure to regime alternance and improves the longevity of alpha signals.
This dual exposure also increases convexity, especially in stressed regimes where correlation shocks emerge abruptly. Such convexity - returns that accelerate under stress - is both rare and valuable in today's market landscape. ABC arbitrage aims to deliver this through its modular research architecture, continuous signal calibration, and adaptive execution models.

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