System Upgrades.

Introducing Clever 2.0 | Launching October 2022
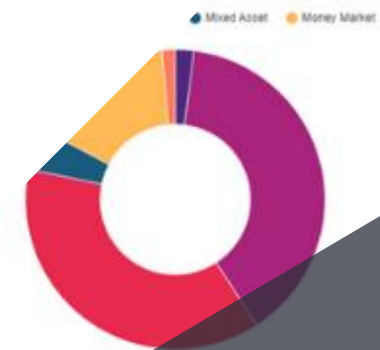
CleverAdviser.

Introducing Clever 2.0

Upgrades to the Clever Fund Selection & Monitoring System

Working alongside Clever Adviser Technology (Clever), we are delighted to introduce to you some **exciting enhancements** to the fund selection and monitoring system, the CleverEngine. These developments build on the existing strengths of the system, and allow for a more agile approach to changing market conditions. The aim is to enhance long term performance whilst better protecting your portfolio in times of extreme volatility – such as experienced more recently.

Although the Clever system has successfully driven portfolios for many years, recent performance has been challenging, as it has for all forms of active portfolio management, across all risk levels. The start of 2022 signalled a significant shift in global economic conditions that have since seen markets continually readjust to high inflation and rising interest rates. This has generated considerable volatility in global markets, with stock prices and portfolio valuations falling across the board.

Although volatility can never be completely removed, one development discussed herein (**Clever**MSDS**.**) addresses the system's response to these extreme periods and seeks to better protect portfolios should they occur moving forwards. Other developments include new investment criteria used by the system to analyse funds and more advanced algorithms for selecting funds within your portfolio. Both of these have been designed to enhance performance of the system long term. See overleaf for more information.

Throughout the extensive testing of these developments, Clever's Research & Development Team ran almost 5 billion tests across 15 years worth of available data, using some of the most advanced data science techniques and tools available. Results in testing have shown improved performance, reduced losses and a more responsive system in times of volatility.

Summary of Developments.

New Investment Criteria	More Advanced Algorithms	**Clever**MSDS.

A more informed system.

The CleverEngine uses a range of investment criteria to assess the behaviour and quality of funds within a sector. This information is then used to determine which funds to buy and sell each month.

By introducing more criteria for the system to choose from and use (from 9 to 17), it is more informed and able to better understand a funds behaviour, the opportunities it presents, and its potential as an investment.

This broadens the opportunities within each sector and, in testing, enhanced portfolio performance.

A more advanced system.

The investment criteria used to analyse funds are very important, and also very specific to an individual sector and moment in time. The criteria used within each sector ultimately determines which fund's are bought and sold, and the performance generated over time.

Sectors typically grow, move, and behave differently to one another, and so have different characteristics. Each sector requires a slightly different approach and different criteria to navigate these changes effectively.

Clever are now introducing new powerful data science techniques that allow the system to learn even more about a sector, its characteristics, and what criteria to use.

In testing, these developments improved performance across all sectors.

A more responsive system.

The Market Shift Detection System (MSDS) has been designed to work alongside the CleverEngine each month to identify periods of heightened market volatility, and shifts in market behaviour, such as those seen in the last 6-12 months.

Once identified, the MSDS alerts the CleverEngine and suggests a shift in strategy from 'high return' to 'low risk' - replacing your current fund with a passive or much lower risk alternative within the sector. This is considered a defensive move against any potential upcoming volatility.
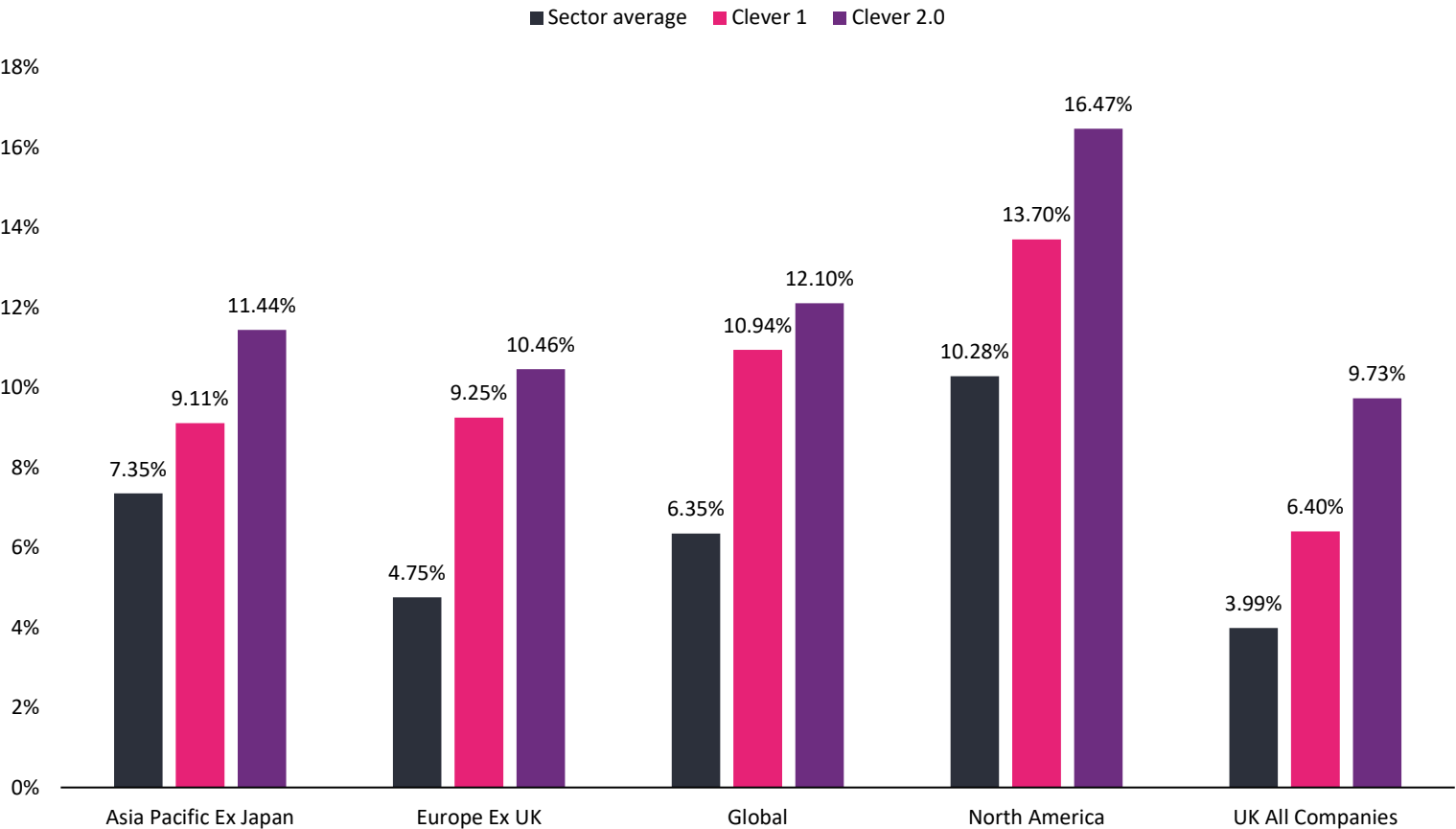
The fund will then be held until such time as the MSDS identifies that market behaviour is more stable and beginning to recover, at which point the system will shift its strategy back to 'high return' and seek a new fund for that sector in your portfolio.

The MSDS improved the response in testing to a number of notable periods of extreme volatility and market decline e.g. the Global Financial Crisis 2007-2008 as well as 2021-2022.

Clever 2.0 performance review.

'Historically improved performance'

Annualised return analysis | Top 5 Major Equity Sectors | 15 years to June 2022

Legend: ■ Sector average ■ Clever 1 ■ Clever 2.0

Asia Pacific Ex Japan: 7.35%, 9.11%, 11.44%
Europe Ex UK: 4.75%, 9.25%, 10.46%
Global: 6.35%, 10.94%, 12.10%
North America: 10.28%, 13.70%, 16.47%
UK All Companies: 3.99%, 6.40%, 9.73%

Review of Testing

- Clever 1 (current system) remains a strong outperformer long term.

- Clever 2.0 developments improving on existing outperformance (+2.16% a year on average across these sectors).

- Improved performance observed across all sectors.

- This performance is the culmination of all new developments working together over time.

Clever 2.0 performance review.

'Historically improved performance'

Annualised return analysis | Top 3 Major Bond Sectors | 15 years to June 2022
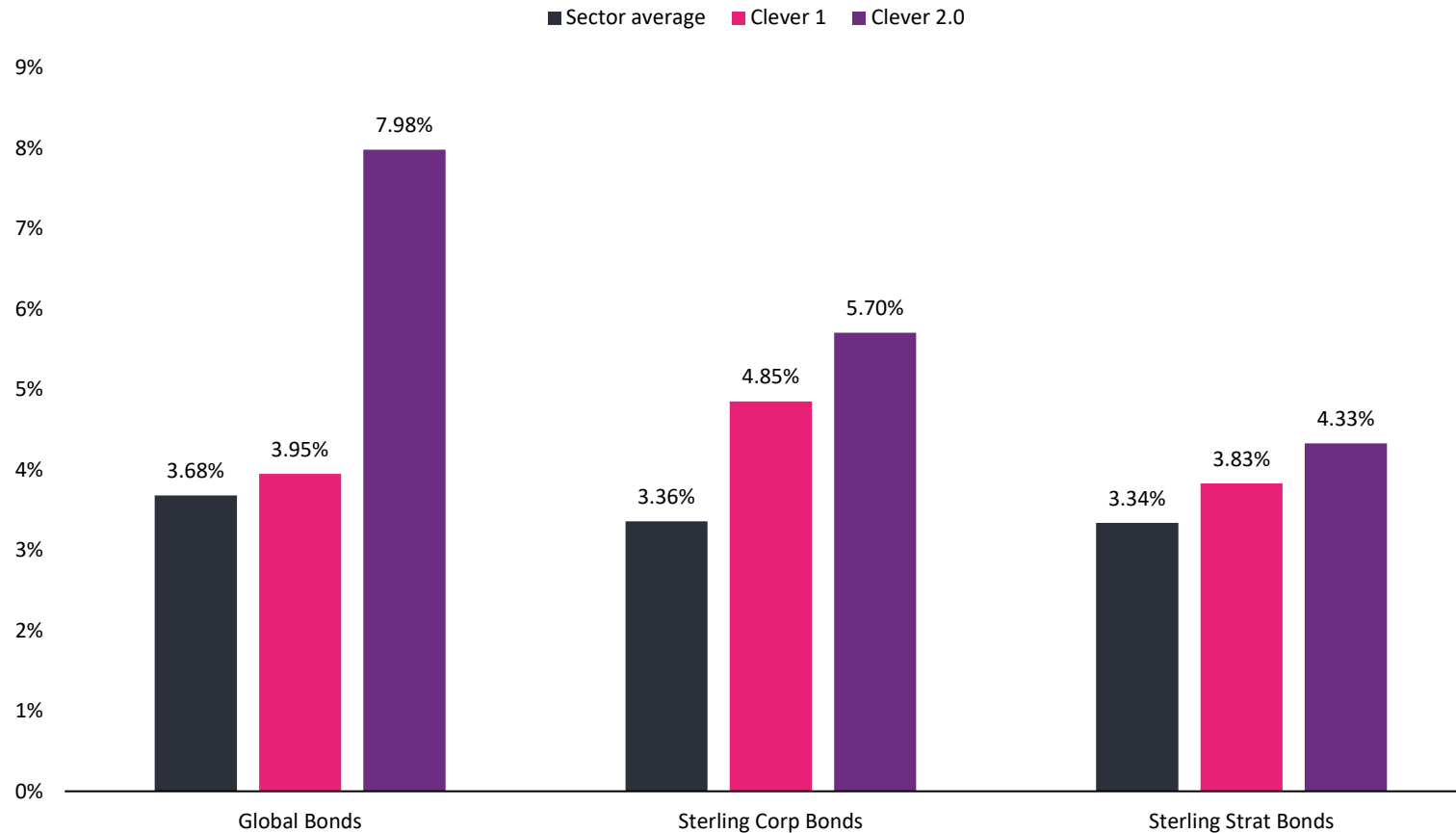
■ Sector average   ■ Clever 1   ■ Clever 2.0

Review of Testing

- Clever 1 (current system) remains a strong outperformer long term.

- Clever 2.0 developments improving on existing outperformance (+1.79% a year on average across these sectors).

- Improved performance observed across all sectors.

- This performance is the culmination of all new developments working together over time.

CleverMSDS.

Market Shift Detection System

- Designed to help better protect your portfolio during potential periods of extreme market volatility.

- Volatility and downside can never be completely removed, but could be better managed with a process.

- Rules-based approach, founded on academic research principals.*

- MSDS tracks a series of proprietary market volatility and fall indicators, which at certain statistical levels can signal further volatility and falls in that period.*

- When these levels are hit, Clever system will switch to a passive or lower risk fund, in that relevant sector, as a defensive move.

- Clever switches back out of passive / lower risk fund when MSDS indicators suggest market has restabilised.

- In testing, MSDS only triggered on average 4 times in the last 15 years, within a sector.

- Effectively reduced losses in the last 12 months, in testing.

*Sources: Momentum Has Its Moments, Barroso & Santa-Clara (April 2015), Conditional Volatility Targeting, Bongearts, Kang & Van Dijk (July 2020), and Understanding Volatility-Managed Portfolios, Cejnek & Mair (April 2021).

How The CleverMSDS Works.

North American Sector Example - MSDS Signal is Off

MSDS Trigger Point

Mar-03 Oct-03 May-04 Dec-04 Jul-05 Feb-06 Sep-06 Apr-07 Nov-07 Jun-08 Jan-09 Aug-09 Mar-10 Oct-10 May-11 Dec-11 Jul-12 Feb-13 Sep-13 Apr-14 Nov-14 Jun-15 Jan-16 Aug-16 Mar-17 Oct-17 May-18 Dec-18 Jul-19 Feb-20 Sep-20 Apr-21 Nov-21 Jun-22
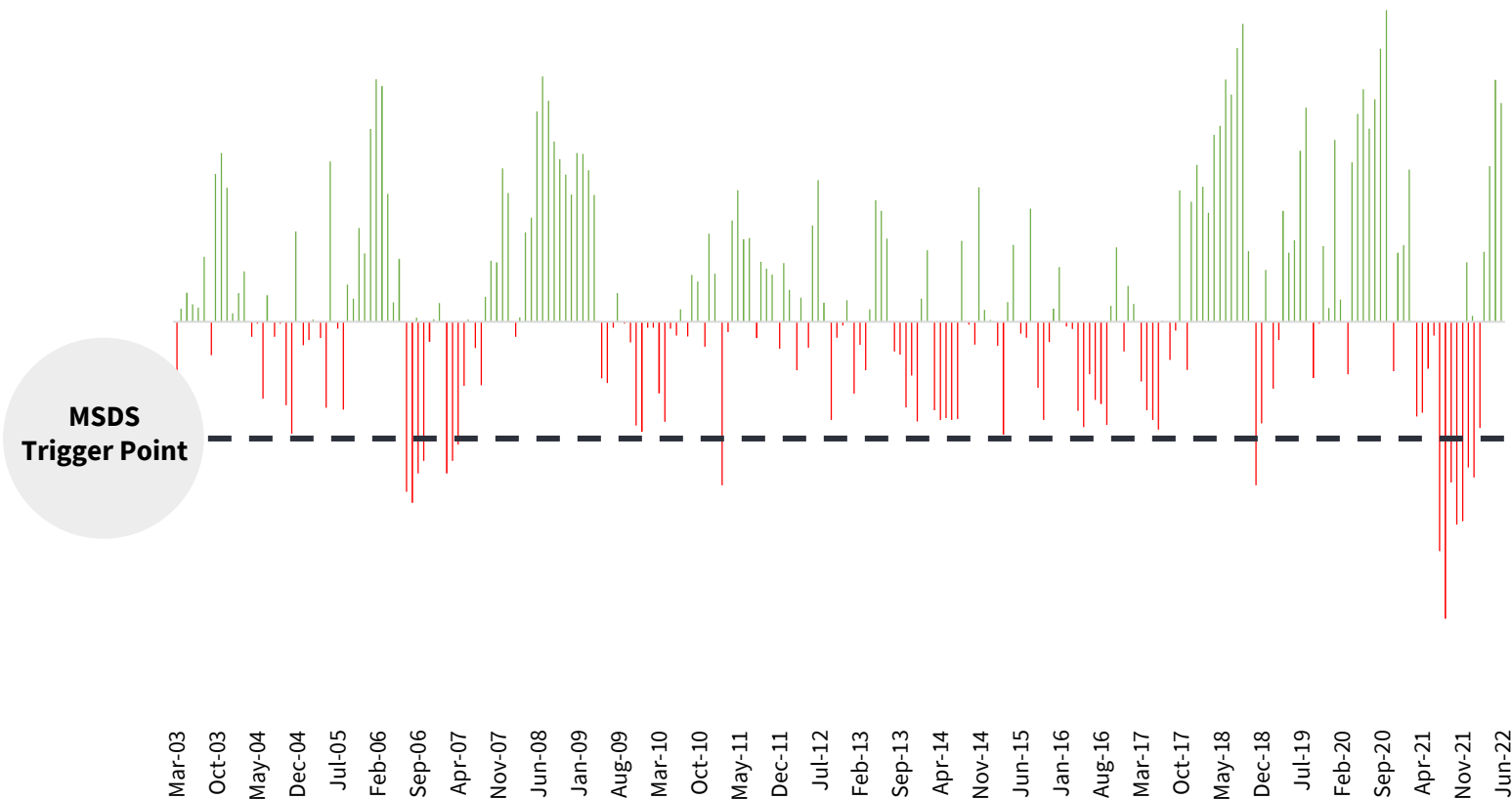
- This chart tracks the CleverMSDS indicator in the North American Sector over time.

- Red bars represent downward volatility & momentum / Green bars represent upward volatility & momentum.

- MSDS engaged when a red bar breaches below trigger point in a month.

- This breach indicates a statistically significant level of 'extreme' volatility, which can indicate further volatility and falls in that period*.

- When bars begin to turn green again, MSDS is disengaged.

- MSDS has been triggered 4 times in the last 15 years of testing in the US.

Risk Warning.