Yield curve strategies

Navigate government bond yield curves

Lyxor's US and European yield curve strategies are designed to benefit from changes in the shape of government bond yield curves. Our ETFs are built to exploit either a steepening or flattening of the 2-10Y portion of the US and German yield curves and provide tactical tools to support traditional bond strategies.

Understanding the yield curve

- The shape or slope of a government bond yield curve can be influenced by several factors:
  - Inflation expectations
  - Central bank policies
  - Market expectations for policy action
  - Heightened market stress / flights to safety
- Investors can potentially benefit from changes in the shape of a government bond yield curve.
- The difference in interest rates between short- and long-term government bonds is known as the **yield differential**.

Changes in bond yield differentials

- When anticipating a shift in yield differential between government bonds maturities, two strategies can be implemented:
  - A **curve steepening strategy** should benefit from an increase in the yield differential.
  - A **curve flattening strategy** should benefit from a decrease in the yield differential.
- Performance of yield curve strategies is therefore tied to **changes in the yield differential** between government bonds of two different maturities, and not an overall shift of the yield curve.

Traditional fixed income strategies vs tactical yield curve positioning

Sources: Lyxor International Asset Management. For illustrative purposes only. This is not a recommendation.

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Yield curve strategies allow for additional portfolio performance - whatever the yield environment

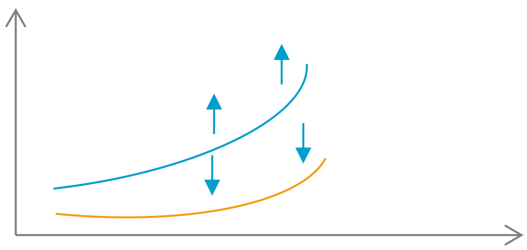
Yield curve spread trades are often uncorrelated to the absolute direction of interest rates. The performance of these strategies is independent of absolute interest rate changes and is tied to changes in the yield differential between two maturities.

Yield curve differential strategy	Action	Low duration leg	High duration leg
Flattener	**SELL** differential	Short	Long
Steepener	**BUY** differential	Long	Short

Making the theory investible

Theoretical yield differential

- Non-investible, yield-based.
- Driven by the variation in yield between bonds at different maturities.



Investible yield curve strategy

Exposure to a tradeable strategy via two future bas (long futures with maturity A / short futures with matu

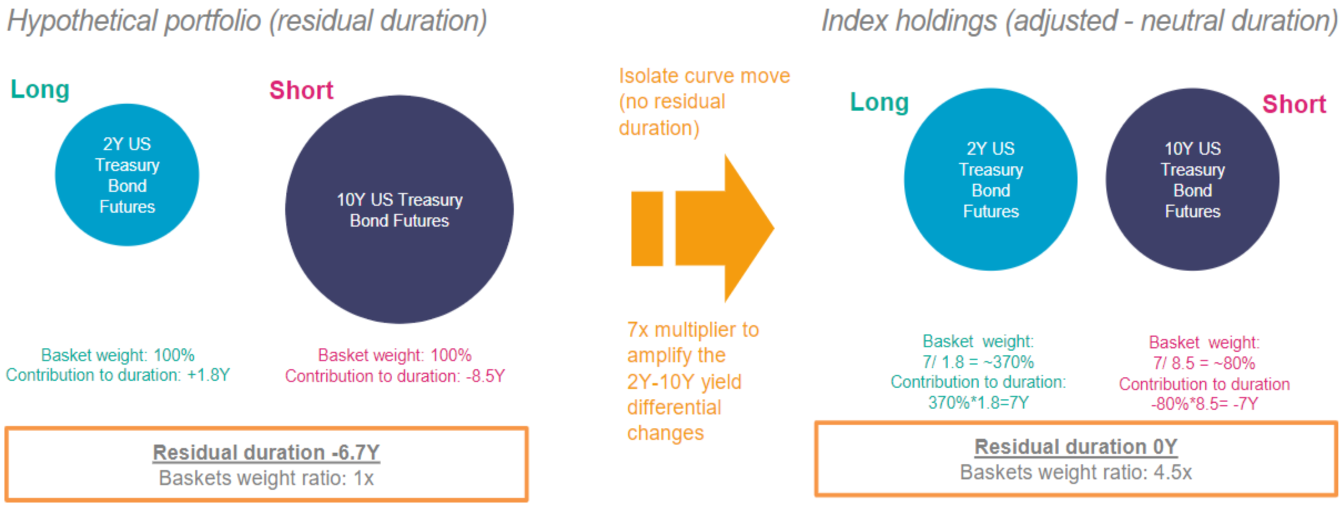
- *Funded strategy*: Cash returns can impact performance positively or negatively.
- *Leverage* on each basket is adjusted daily to ensure the strategy is neutral to interest rate shifts. This introduces compounding effect but also transaction costs.
- *Rolling costs*: Costs associated with trading the futures during the quarterly rolls to switch from expiring futures to the next expiring ones.
- No residual interest rate risk of parallel shift.

How the Solactive curve strategy indices work

The index isolates the 2-10Y movement in the yield curve

- For a 1bp steepening of the curve the steepening index is expected to increase roughly 7bp (and vice-versa).
- Index performance is calculated each day using the individual daily returns of the long and short legs - compounding effects may result.
- To protect against parallel shifts in interest rates, the leverage on each leg is adjusted daily using the duration of the futures' Cheapest to Deliver[1].
- To neutralise the contribution to duration from each leg, the 2Y basket weight (~1.8Y duration) is ~ 4.5 times bigger than 10Y basket weight (~8.5Y duration).

Isolate the 2-10Y movement in the yield curve with a 7x multiplier



This strategy is a funded strategy based on futures and takes into account transaction costs, which can impact the expected performance. Further index details may be found at www.solactive.com. [1] Cheapest to Deliver .
Source: Lyxor International Asset Management. For illustrative purposes only.

[1]Cheapest security that can be delivered in a futures contract to a long position to satisfy the contract specifications.

The impact of rate movements on 2-10Y yield curve and traditional fixed income strategies

We looked at the performance of traditional fixed income and yield curve strategies under two scenarios:

- **Bear Flattening (Q4 2017):** During Q4 2017 the US Fed was shifting away from policy accommodation to focus on reducing the size of its balance sheet. This pushed 2Y yields higher, while mild inflation expectations were keeping 10Y yields within a tight range.

The Flattening curve strategy outperformed a traditional fixed income allocation.

- **Bear Steepening (Sept – Dec 2019):** The front end of the yield curve was pegged to the Fed funds rate and 2Y yields were little changed over the period as the Fed held policy rates after a final cut in October. On the other hand, 10Y yields increased over the period as higher inflation expectations fed into the bond market on signs of economic recovery and the agreement of Phase 1 trade deal between the US and China.

The Steepening curve strategy outperformed a traditional fixed income allocation.

Table 1: 2-10Y yield curve and traditional fixed income strategies performance analysis

	Bloomberg Barclays US Treasury 1-3 Year Index	Bloomberg Barclays US Treasury 7-10 Year Index	Bloomberg Barclays US Treasury Index	Solactive USD Daily (x7) Steepener 2-10 Index	Solactive USD Daily (x7) Flattener 2-10 Index
Bear Flattening (Q4 2017)					
Index performance	-0.3%	-0.3%	0.1%	-1.5%	2.0%
Modified Duration	1.8	7.6	6.5	0	0
2Y generic change			+ 36.2 bps		
10Y generic change			+ 8.5 bps		
2Y - 10Y yield differential change			- 27.7 bps		
Bear Steepening (30/08/2019 - 31/12/2019)					
Index performance	0.4%	-2.3%	-1.6%	1.7%	-0.5%
Modified Duration	1.8	7.6	6.5	0	0
2Y generic change			+ 13.1 bps		
10Y generic change			+ 42.6 bps		
2Y - 10Y yield differential change			+ 29.5 bps		

Source: Bloomberg Barclays, Lyxor International Asset Management. Data as at 19/03/2020

Past performance is not a reliable indicator of future returns.

ETFs to consider

UCITS ETF	Bloomberg tickers	Trading currencies	Replication type	TER[2]
Lyxor EUR Curve Steepening 2-10 UCITS ETF	STPE, ESTP	EUR	Swap-based	0.30%
Lyxor EUR Curve Flattening 2-10 UCITS ETF	FLTE	EUR	Swap-based	0.30%
Lyxor US Curve Steepening 2-10 UCITS ETF	STPU, UCT2	USD, EUR	Swap-based	0.30%
Lyxor US Curve Flattening 2-10 UCITS ETF	FLTU	USD, EUR	Swap-based	0.30%

[1]source: Lyxor International Asset Management, TER correct as at 17/03/2020.

Important information and risks to be aware of:

- These ETFs are designed for tactical use by professional investors; we do not recommend retail investors invest in these funds.
- Underlying index performance is calculated using daily returns of long and short legs, resulting in a compounding effect.
- As a result, we do not recommend these funds as long term 'buy and hold' investments.

Why Lyxor for yield curve strategies

Innovative
Simple access to curve steepening or flattening using a long/short strategy

Far reaching
A complete range covering the US and European yield curves

Dependable
Over 19 years of expertise from the oldest European ETF provider[1]

[1]Sources: Lyxor International Asset Management, Statements refer to European ETF market. Data as at 18/03/2019.

Knowing your risk
It is important for potential investors to evaluate the risks described below and in the fund prospectus on our website www.lyxoretf.com

Capital at risk
ETFs are tracking instruments: Their risk profile is similar to a direct investment in the Underlying index. Investors' capital is fully at risk and investors may not get back the amount originally invested.

Replication risk
The fund objectives might not be reached due to unexpected events on the underlying markets which will impact the index calculation and the efficient fund replication.

Counterparty risk
With synthetic ETFs, investors are exposed to risks resulting from the use of an OTC swap with Societe Generale. In-line with UCITS guidelines, the exposure to Société Générale cannot exceed 10% of the total fund assets. Physically replicated ETFs may have counterparty risk if they use a securities lending programme

Underlying risk
The Underlying index of a Lyxor ETF may be complex and volatile. For example, when investing in commodities, the Underlying index is calculated with reference to commodity futures contracts exposing the investor to a liquidity risk linked to costs such as cost of carry and transportation. ETFs exposed to Emerging Markets carry a greater risk of potential loss than investment in Developed Markets as they are exposed to a wide range of unpredictable Emerging Market risks.

Currency risk
ETFs may be exposed to currency risk if the ETF is denominated in a currency different to that of the Underlying index they are tracking. This means that exchange rate fluctuations could have a negative or positive effect on returns.

Liquidity risk
Liquidity is provided by registered market-makers on the respective stock exchange where the ETF is listed, including Societe Generale. On exchange, liquidity may be limited as a result of a suspension in the underlying market represented by the Underlying index tracked by the ETF; a failure in the systems of one of the relevant stock exchanges, or other market-maker systems; or an abnormal trading situation or event.

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