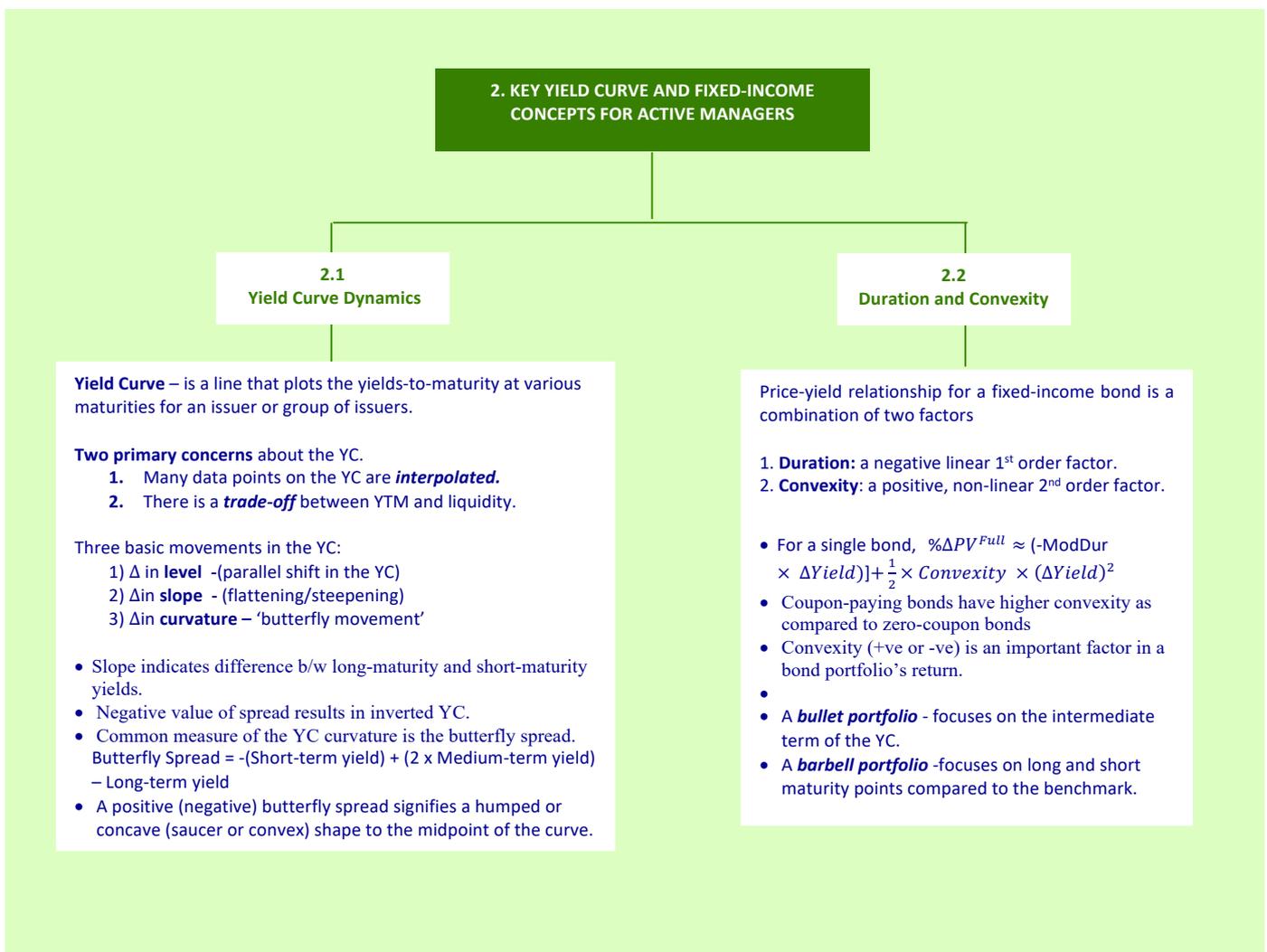
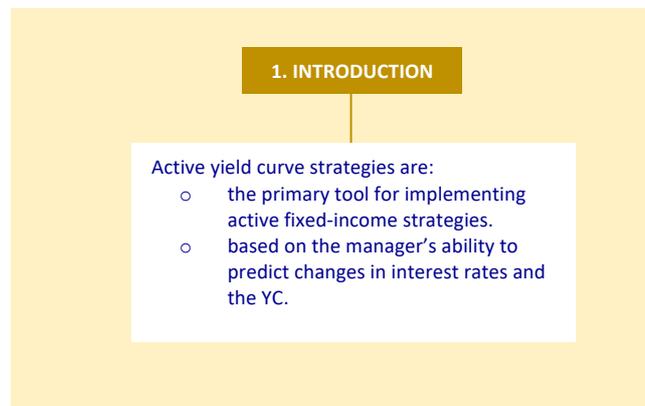


# Yield Curve Strategies

YC = yield curve  
 MRR = market reference  
 rate



3. YIELD CURVE STRATEGIES

3.1 Static Yield Curve

1. **Cash-based** static YC strategies – by adding duration or leverage - include:

i. **Buy and hold** – e.g. when upward sloping YC is expected to remain static, increasing portfolio duration. The portfolio is held constant for a certain period.  
Strategy's Return: Coupon Income

ii. **Rolling down the YC** - when upward sloping YC is expected to remain static, this strategy involves purchasing bonds with higher maturity, and then selling them at the end of the investment horizon and receiving higher coupon and price appreciation.  
Strategy's Return: Coupon Income + Rolldown return

iii. **Repo carry trade** - Manager purchases long-term higher yield security, which is financed with short-term lower yield security.  
Strategy's Return: Coupon Income + Rolldown return – Financing Cost

2. **Derivatives-based** static YC strategies – by using synthetic means - include:

i. **Long futures position** - synthetically increasing duration by purchasing bond futures.  
Strategy's Return: Change in price – Margin cost.

ii. **Receive-fixed swap** - synthetically increasing duration as a fixed-rate receiver on an interest rate swap and paying market reference rate (MRR).  
Strategy's Return: Coupon Income + Rolldown return – Financing Cost.

3.2 Dynamic Yield Curve

3.2.1 Divergent Rate Level View

Major yield curve strategies to **increase** portfolio duration are:  
1. Cash bond purchase  
2. Receive-fixed swap  
3. Long futures position

Major yield curve strategies to **decrease** portfolio duration are:  
1. Cash bond sale  
2. Pay-fixed swap  
3. Short futures position

3.2.2 Divergent Yield Curve Slope View

A manager can use either **barbell** or **bullet** strategy. Barbell strategy is more well-suited.  
1. **Barbell**: combining securities from longer & shorter maturities segments.  
2. **Bullet**: increasing or decreasing exposure to a particular maturity segment.

3.2.3 Divergent Yield Curve Shape View

**Butterfly Strategy**: a long-short combination of bullet and barbell portfolio structures.  
1. **Negative Butterfly**: Long Barbell + Short Bullet  
2. **Positive butterfly**: Short Barbell + Long Bullet

3.3 Key Rate Duration for a Portfolio

measures the interest rate sensitivities of a fixed-income portfolio for the changes in key points along the yield curve.

3.2.4 Yield Curve Volatility Strategies

1. Long bond Call option
2. Long bond Put option
3. Long payer swaption
4. Long receiver swaption
5. Long call option on bond future
6. Long put option on bond future

**YC Steepening**: Take a long position in 'shorter-dated bonds' and short position in 'longer-dated bonds.'

When YC steepening is due to:

- ↑ in long-term bond yields – it is **bear steepening**
- ↓ in short-term bond yields – it is **bull steepening**

**YC steepening strategies**

- i. Duration neutral -net zero duration
- ii. Bear steepener -net negative duration
- iii. Bull steepener – net positive duration

**YC Flattening**: Take a long position in 'longer-dated bonds' and a short position in 'shorter-dated bonds.'

When YC flattening is due to:

- ↑ in short-term bond yields – it is **bear flattening**.
- ↓ in long-term bond yields – it is **bull flattening**.

**YC flattening strategies**

- i. Duration neutral -net zero duration
- ii. Bear flattener -net negative duration
- iii. Bull flattener – net positive duration

#### 4. ACTIVE FIXED-INCOME MANAGEMENT ACROSS CURRENCIES

Across economies, differences in macroeconomic factors are reflected in the term structure of *interest rates* and *exchange rates*.

**Domestic-currency return** for a:

- Single asset:  $R_{DC} = (1 + R_{FC})(1 + R_{FX}) - 1$
- Portfolio:  $R_{DC} = \sum_{i=1}^n w_i(1 + R_{FC,i})(1 + R_{FX,i}) - 1$

**Active Cross Currency Unhedged Strategies**

- I. Receive-fixed/Pay-fixed
- II. Receive-fixed/Pay-floating
- III. Receive-floating/Pay-fixed
- IV. Receive-floating/Pay-floating

#### 5. A FRAMEWORK FOR EVALUATING YIELD CURVE STRATEGIES

The fixed income portfolio return is greatly affected by:

- the portfolio manager's expectations
- unexpected market changes

**Scenario analysis** is an excellent risk assessment tool to evaluate the impact of changes on expected portfolio return under varying set of assumptions at once.