

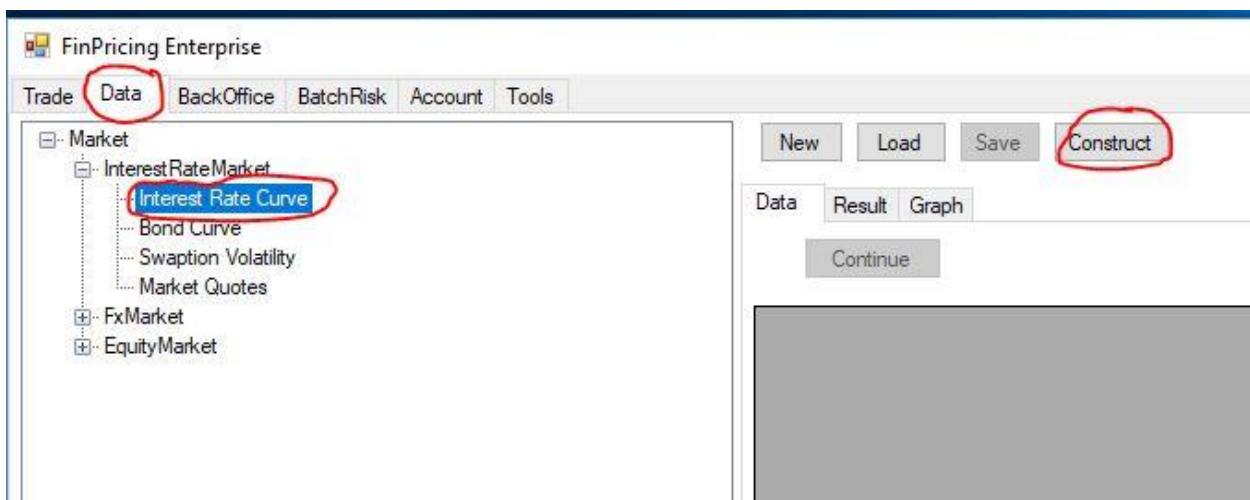
Curve Construction

The term structure of interest rates, also known as yield curve, is defined as the relationship between the yield-to-maturity on a zero coupon bond and the bond's maturity. Zero yield curves play an essential role in the valuation of all financial products.

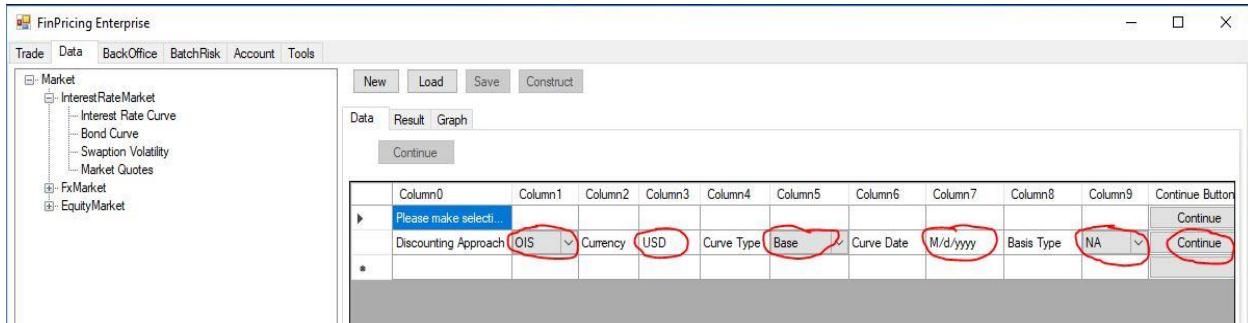
The current methodology in capital markets for marking to market securities and derivatives is to estimate and discount future cash flows using rates derived from the appropriate term structure. The yield term structure is increasingly used as the foundation for deriving relative term structures and as a benchmark for pricing and hedging.

Yield curves can be derived from government bonds or LIBOR/swap instruments. The LIBOR/swap term structure offers several advantages over government curves, and is a robust tool for pricing and hedging financial products. Correlations among governments and other fixed-income products have declined, making the swap term structure a more efficient hedging and pricing vehicle.

- Click the Data tab at the top-left corner of the application. Then, expand Market -> InterestRateMarket -> Interest Rate Curve and click the Construct button.



- A selection template is displayed in the main window. Select Discounting Approach (e.g., OIS), Curve Type (e.g., Base) and Basis Type (e.g., NA for base curve), fill Currency (e.g., USD), Curve Data (e.g., 2/8/2018) and then click the Continue button at the right of the row.



- Based on your selection, the system knows what kind of curves needed. So it loads the data in the main window if they are available, otherwise it generates new curve templates in the main window for you to fill. If you fill new curves, you need to click the Save button to save them

Column0	Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9
Currency	ValuationDate	CurveName	QuoteName	InstrumentT...	Term	Value	Currency	ValuationDate	CurveName
USD	02/08/2018	USD_3M	USD_STUB: ...	Cash	3/21/2018	0.0171232	USD	02/08/2018	USD_OIS
USD	02/08/2018	USD_3M	USD_STUB: ...	FUTURE	03/16/2020	97.2826	USD	02/08/2018	USD_OIS
USD	02/08/2018	USD_3M	USD_STUB: ...	FUTURE	03/18/2019	97.5445	USD	02/08/2018	USD_OIS
USD	02/08/2018	USD_3M	USD_STUB: ...	FUTURE	03/19/2018	98.05	USD	02/08/2018	USD_OIS
USD	02/08/2018	USD_3M	USD_STUB: ...	FUTURE	06/15/2020	97.257	USD	02/08/2018	USD_OIS
USD	02/08/2018	USD_3M	USD_STUB: ...	FUTURE	06/17/2019	97.4659	USD	02/08/2018	USD_OIS
USD	02/08/2018	USD_3M	USD_STUB: ...	FUTURE	06/18/2018	97.8551	USD	02/08/2018	USD_OIS
USD	02/08/2018	USD_3M	USD_STUB: ...	FUTURE	09/14/2020	97.2374	USD	02/08/2018	USD_OIS
USD	02/08/2018	USD_3M	USD_STUB: ...	FUTURE	09/16/2019	97.4076	USD	02/08/2018	USD_OIS
USD	02/08/2018	USD_3M	USD_STUB: ...	FUTURE	09/17/2018	97.7353	USD	02/08/2018	USD_OIS
USD	02/08/2018	USD_3M	USD_STUB: ...	FUTURE	12/14/2020	97.1085	USD	02/08/2018	USD_OIS

- After filling/validating data, click the Continue button above the main window. FinPricing starts to construct the interest rate curve. The results are shown in the Result tab.

FinPricing Enterprise

Trade Data BackOffice BatchRisk Account Tools

Market

- InterestRateMarket
 - Interest Rate Curve
 - Bond Curve
 - Swaption Volatility
 - Market Quotes
- FxMarket
- EquityMarket

New Load Save Construct

Data Result Graph

Column1	Column2	Column3
Date	OIS Zero Rate Curve	3M LIBOR Zero Rate Curve
2/15/2018	0.0144446958649282	0.0173441159671608
2/22/2018	0.014509035938584	0.0173441159671611
3/1/2018	0.0145738182120647	0.0173441159671613
3/8/2018	0.0146387110354979	0.0173441159671601
4/8/2018	0.0149525775810282	0.0174924148582577
5/8/2018	0.0153440659472915	0.0180432128620182
6/8/2018	0.0157572797339464	0.0187486033483515
7/8/2018	0.0161757489824201	0.0192557542693167
8/8/2018	0.0165624313162406	0.0196316105318471
9/8/2018	0.0168709438162761	0.0199930934728389
10/8/2018	0.0171212056082124	0.0202920969366876
11/8/2018	0.0174237974774616	0.0205708814810946

Reference

<https://finpricing.com/lib/EqRainbow.html>