

MCMF Interest Rate Model

Intuitive Picture

Curve Dynamics

In the long term, rates tend to an equilibrium level

The short-term rate is determined by FOMC policy

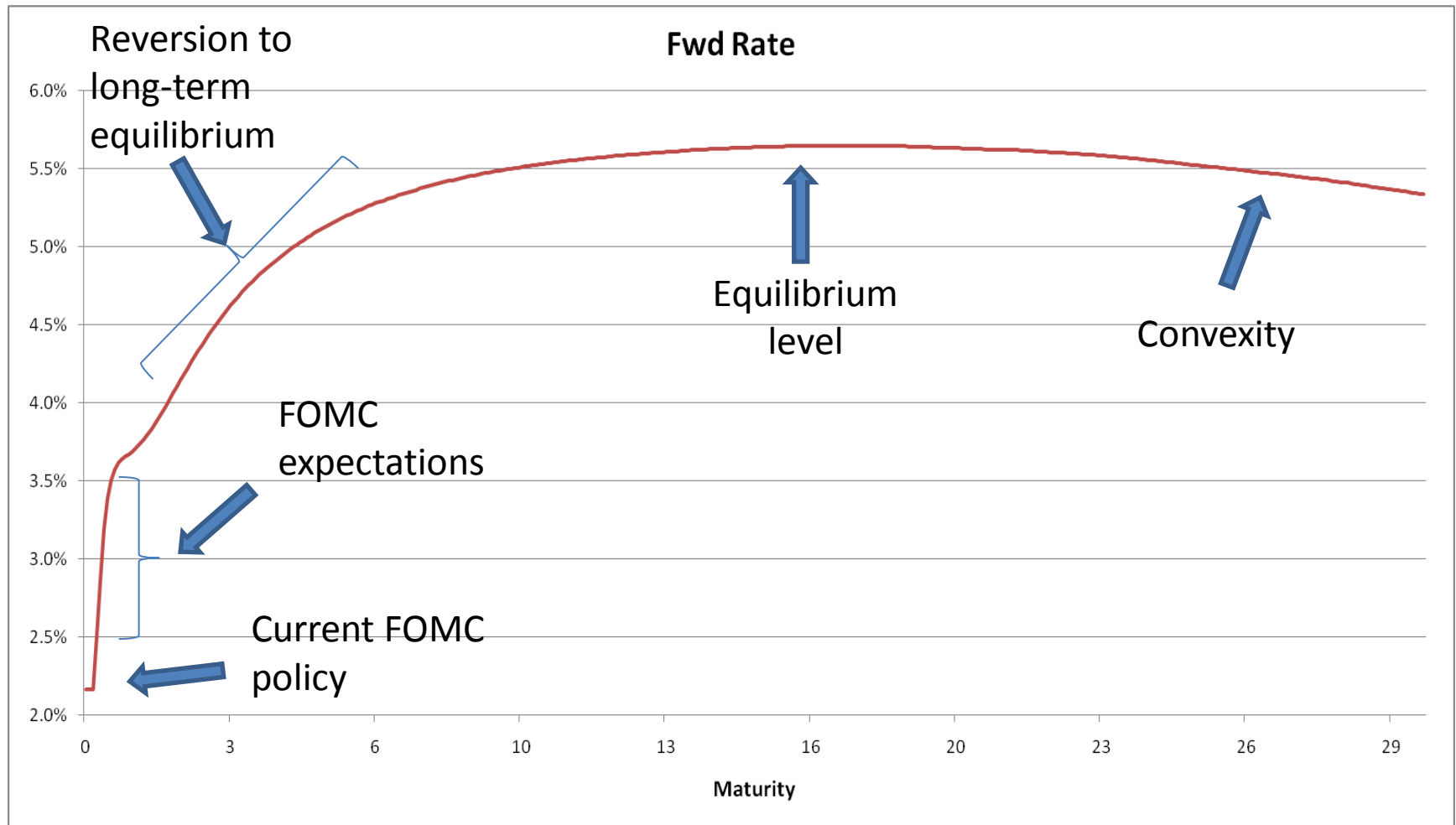
Between these two extremes in maturity:

- Market expectations of future FOMC decisions
- Ultimate reversion to long-term equilibrium

Premium for exposure to equilibrium level of rates

- Modest positive slope in the equilibrium curve

Curve Elements



Curve Segmentation

30Y dominated by the equilibrium rate level and the premium

10Y-30Y dominated by the premium

2Y-10Y dominated by reversion of rates to equilibrium

O/N – 6M dominated by FOMC expectations

O/N fixed by announced FOMC policy

Model Factors

Introduce a Model Factor for each Curve Element

Each Factor characterizes a Curve Segment

Model Parameters permit the fine-tuning of the impact of a Factor on its Segment

- Example: mean-reversion strength determines how “sticky” money market rates are to changes in expectations of the equilibrium rate – dv01 factor

Relative Value Signals*

The five model factors and their dynamics determine the model yield curve

There are usually more traded instruments than factors

Significant deviations in market price from model price *may* be an indication of a temporary dislocation in price: a *potential* signal of RV, indicating further analysis is justified

*This theoretical model is intended for informational and research purposes only and should not be regarded as an offer, solicitation or recommendation to sell or purchase any security or other financial product

Uses In Market Research*

Structured and parsimonious view of interest rate dynamics, independent of specific trade ideas

A discipline: theoretical separation of market risks and relative value

Simplified relative value (RV) analysis – RV in an historical context

Consistent RV analysis across styles and across markets

RV is clearly associated with each instrument

Simplified theoretical hedging analysis – theoretical risks arise only from the five factors

Simplified portfolio analysis – risk model and alpha are self-consistent

Example RV Insight: Is 10Y-30Y (theoretically) fair, given the observed steepness in 2Y-10Y?

Technology

Implementation

- Fast Monte Carlo Simulation Engine
- Flexible, Nonlinear Mapping Guarantees Positive Rates
- Fast, Semi-Analytic Factor Sensitivities

.NET Class Libraries

- Microsoft VS C++/C#
- DLL Packaging
- Support Integration with Client Enterprise Applications

Excel Sheets & Addins

- Excel Templates
- VBA Functions Wrap the HRI .NET Class Libraries
- Batch Historical Analysis Sheets
- Desktop “Live” Sheet

