

Moving Forward with the OIS, SOFR and SONIA Curves

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As the LIBOR to SOFR (Secured Overnight Financing Rate) transition marches forward, Model Risk Management groups must consider how robust their model portfolios are with respect to different riskfree benchmark rates. In this *Insights* the bootstrapped GBP SONIA (Sterling Overnight Index Average) forward rate curve manifests negative levels whereas the USD SOFR and OIS (*i.e.*, Effective Federal Funds, EFF) curves are near negative in the short tenor domain. Best practices model validation should probe model behavior in the different economies the firm has exposure. Given the materiality and immediacy of the LIBOR to SOFR transition, the question for Model Risk Management groups at banks and insurance firms is “Are you ready to assess the SOFR curve construction model risk in different currencies?”

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RG Consulting can provide multi-currency curve construction expertise to benchmark internal and vendor-supplied benchmark discount curves. The SOFR, EFF and SONIA forward rate curves bootstrapped using the closing marks on Nov. 3, 2020 are shown in Fig. 1. The liquid instruments used for the curve construction are listed in Table 1 and can be customized for the firm’s specific needs.

Table 1: Curvebuilding Instruments		
Curve	Futures	Swaps (leg A / leg B)
OIS	30 Day Federal Funds Futures	EFF / Fixed
SOFR	One and Three-Month SOFR Futures	SOFR + Basis / EFF
SONIA	Quarterly IMM SONIA Futures	SONIA / Fixed

The swap floating rate legs pay a daily compounded benchmark rate (EFF, SOFR or SONIA) plus a fixed spread, as indicated in the table. It is apparent from the figure the SONIA curve is dramatically different from the SOFR and EFF curves - in the short tenor domain the SONIA curve is nearly 10bp negative whereas both USD curves are above zero. It is imperative the Model Validation function has an independently developed benchmark that captures these model behaviors.

RG Risk Consulting can provide the interest rate term curve construction expertise so your model risk and governance groups will stay ahead of the SOFR to LIBOR transition.

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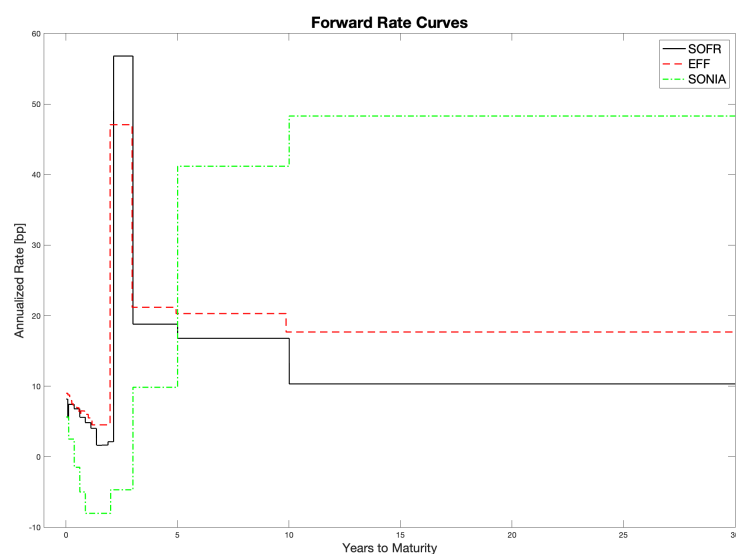


Figure 1: The bootstrapped SOFR (black) , OIS (red) and SONIA (green) piecewise constant forward rate curves on market date Nov 3, 2020.