

LRW FX Model Calibration Report

Model Calibration Team

August 3, 2025

1 Summary

This report presents the calibrated parameters for the LRW (Linear-Rational-Wishart) FX Model across multiple calibration dates. The model is calibrated on domestic and foreign curves. For the options, 4Y tenor option data is used for the calibration.

- Model details:

Parameter	Value
Model Type	LRW FX Model
Dimensions (n)	2
Jump Component	No Jump

Table 1: General model setting

- details on matrix u_i and u_j

u for domestic curve:

$$u_i = \begin{pmatrix} 1.0000 & 0.0000 \\ 0.0000 & 0.1250 \end{pmatrix}$$

u for foreign curve:

$$u_j = \begin{pmatrix} 0.1000 & 0.0000 \\ 0.0000 & 1.0000 \end{pmatrix}$$

- α_i and α_j are the same.

2 Parameter Evolution Summary

Table 2: Key Parameter Evolution Over Time

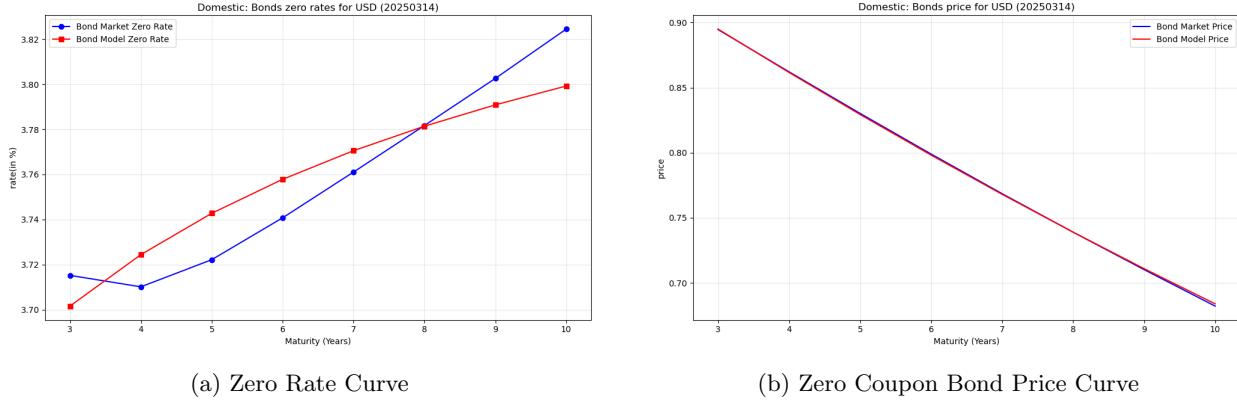
Date	FX Spot	α_{hi}	α_{hj}	x_{011}	x_{022}	ω_{11}	ω_{22}	m_{11}	m_{22}	σ_{11}	σ_{22}
03/14/2025	1.08800	0.03959	0.03959	0.4955	0.0001	0.2658	0.0217	-0.2653	-0.0399	0.1533	0.1598
04/01/2025	1.07875	0.03959	0.03959	0.3849	0.0001	0.0718	0.0229	-0.0870	-0.0310	0.0812	0.1679
04/15/2025	1.12730	0.03959	0.03959	0.4809	0.0003	0.4667	0.0259	-0.4703	-0.0360	0.1612	0.2078
05/16/2025	1.11525	0.03959	0.03959	1.1512	0.0001	0.8250	0.0273	-0.3538	-0.0362	0.0943	0.2040
05/30/2025	1.13590	0.03959	0.03959	0.7092	0.0003	0.5760	0.0272	-0.3976	-0.0383	0.1112	0.2028

3 Calibration Result Charts

This section presents the calibration results through various charts showing the yield curves and implied volatility surfaces for each calibration date.

3.1 Calibration Results for March 14, 2025

3.1.1 Domestic Curve Analysis

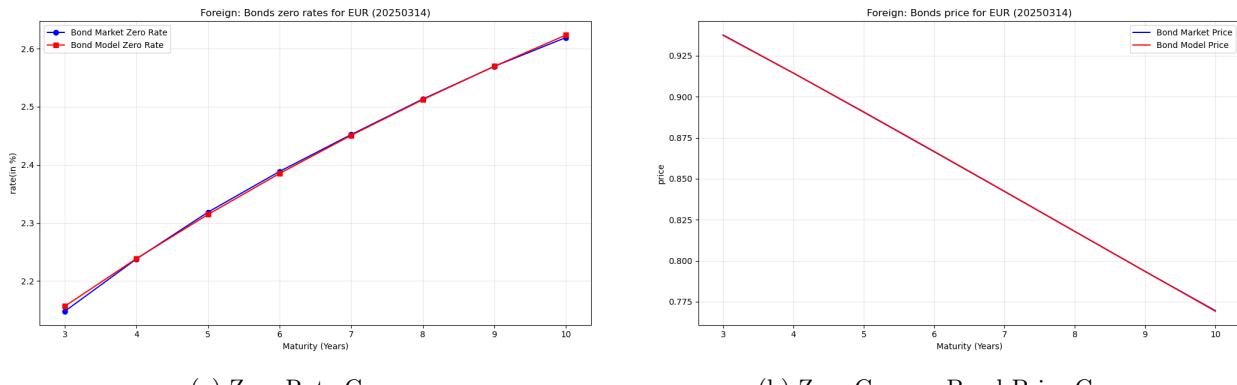


(a) Zero Rate Curve

(b) Zero Coupon Bond Price Curve

Figure 1: Domestic Curve Calibration Results for March 14, 2025

3.1.2 Foreign Curve Analysis



(a) Zero Rate Curve

(b) Zero Coupon Bond Price Curve

Figure 2: Foreign Curve Calibration Results for March 14, 2025

3.1.3 FX Volatility Surface

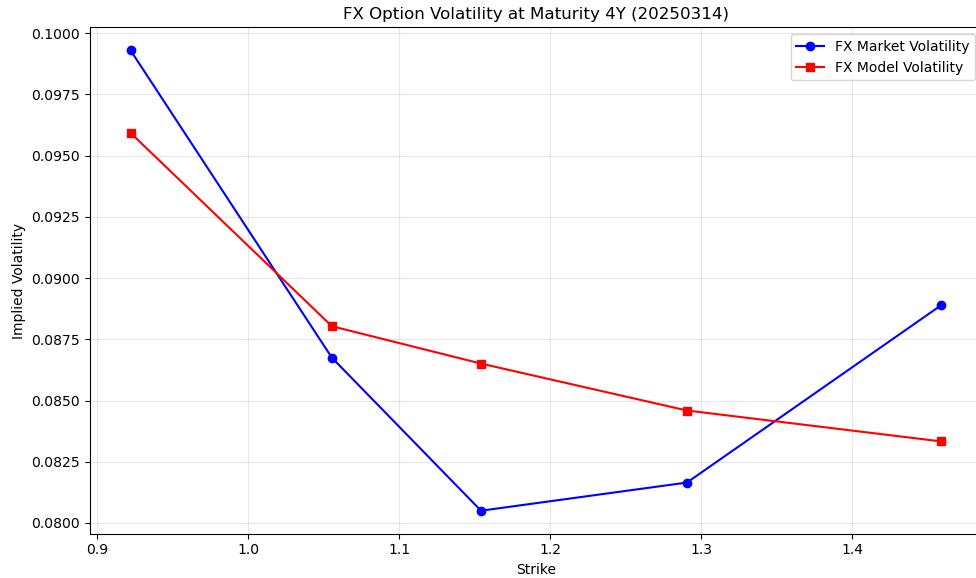


Figure 3: FX Implied Volatility Surface for March 14, 2025

3.2 Calibration Results for April 01, 2025

3.2.1 Domestic Curve Analysis

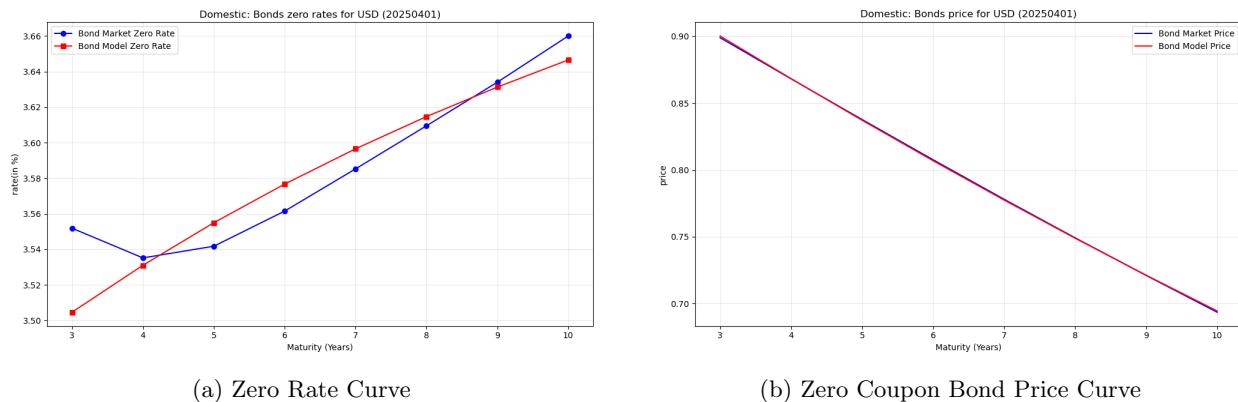


Figure 4: Domestic Curve Calibration Results for April 01, 2025

3.2.2 Foreign Curve Analysis

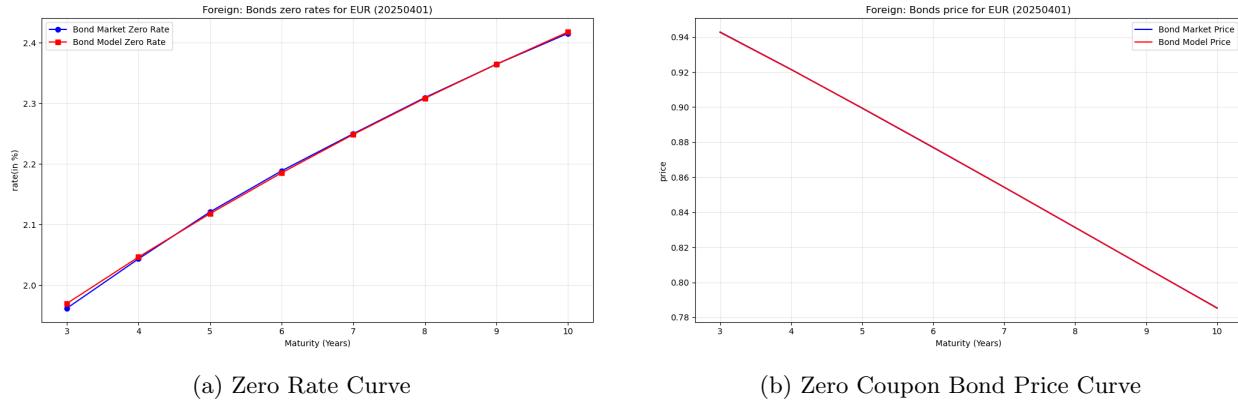


Figure 5: Foreign Curve Calibration Results for April 01, 2025

3.2.3 FX Volatility Surface

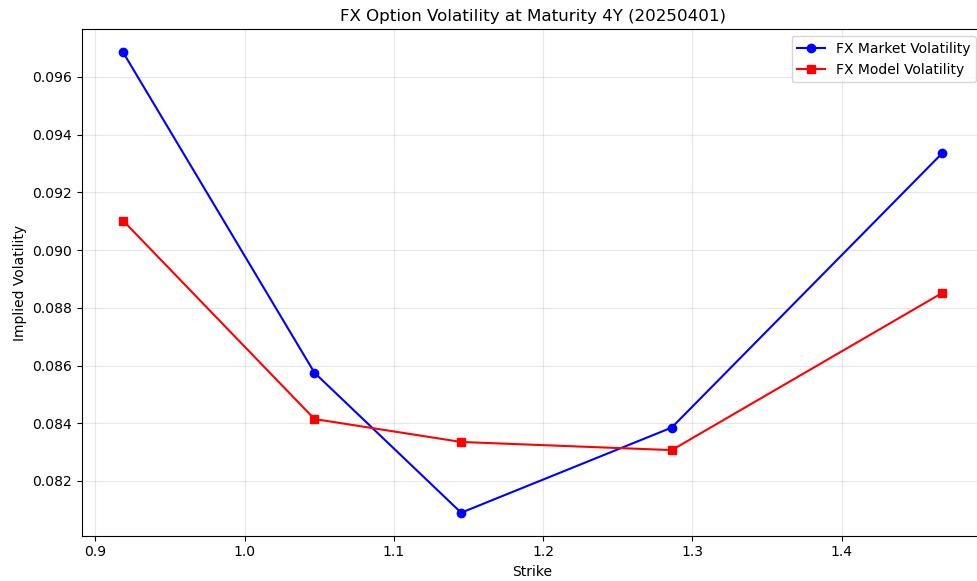


Figure 6: FX Implied Volatility Surface for April 01, 2025

3.3 Calibration Results for April 15, 2025

3.3.1 Domestic Curve Analysis

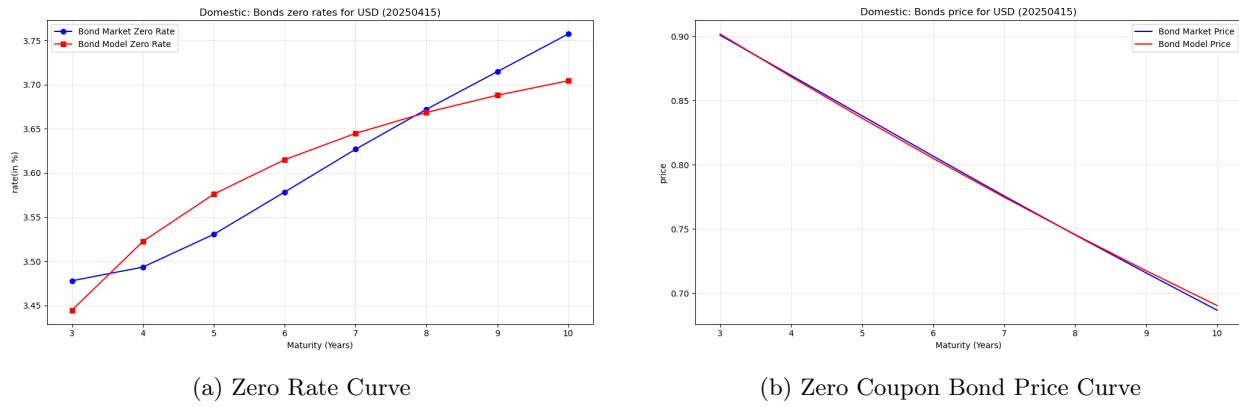


Figure 7: Domestic Curve Calibration Results for April 15, 2025

3.3.2 Foreign Curve Analysis

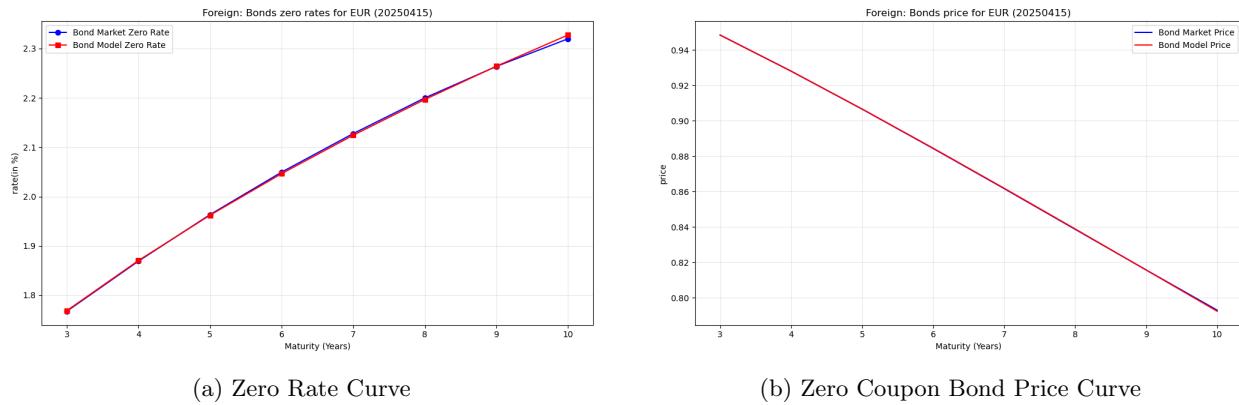


Figure 8: Foreign Curve Calibration Results for April 15, 2025

3.3.3 FX Volatility Surface

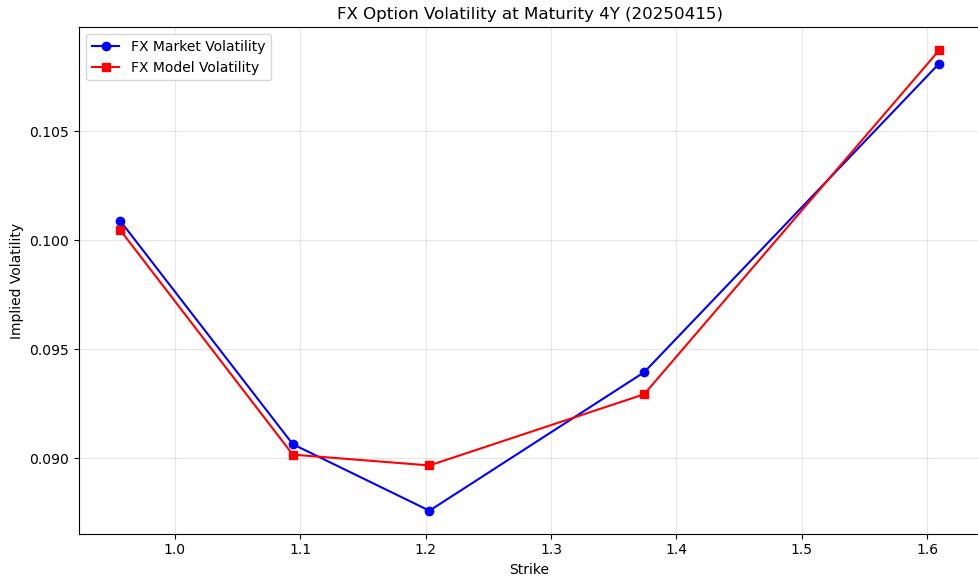


Figure 9: FX Implied Volatility Surface for April 15, 2025

3.4 Calibration Results for May 16, 2025

3.4.1 Domestic Curve Analysis

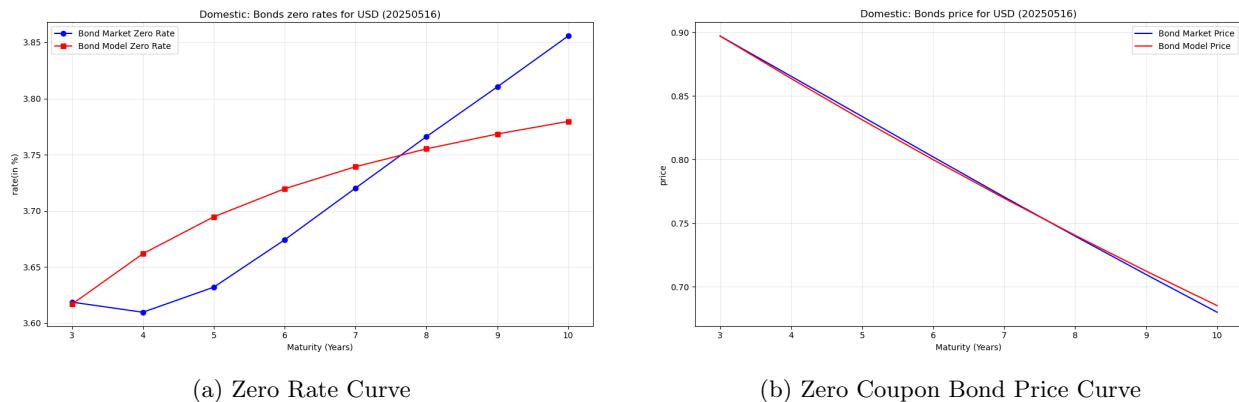


Figure 10: Domestic Curve Calibration Results for May 16, 2025

3.4.2 Foreign Curve Analysis

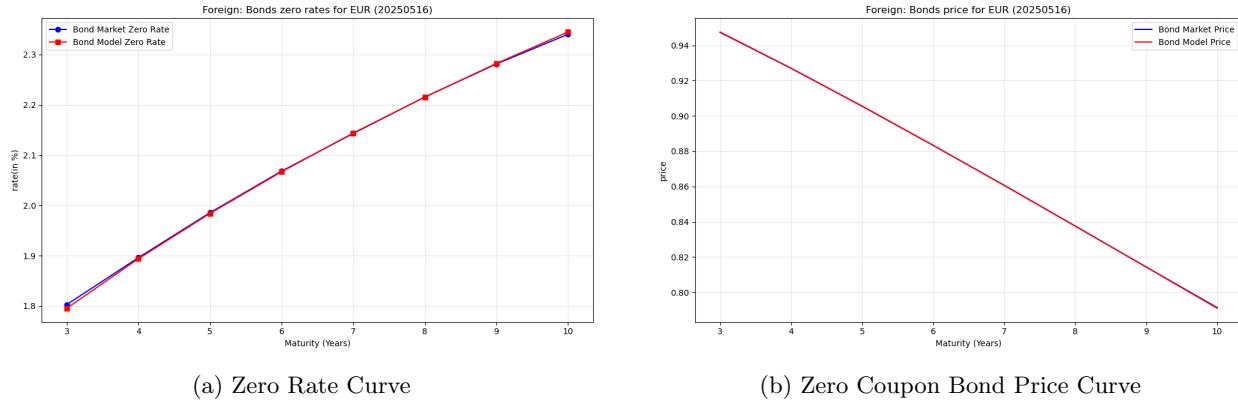


Figure 11: Foreign Curve Calibration Results for May 16, 2025

3.4.3 FX Volatility Surface

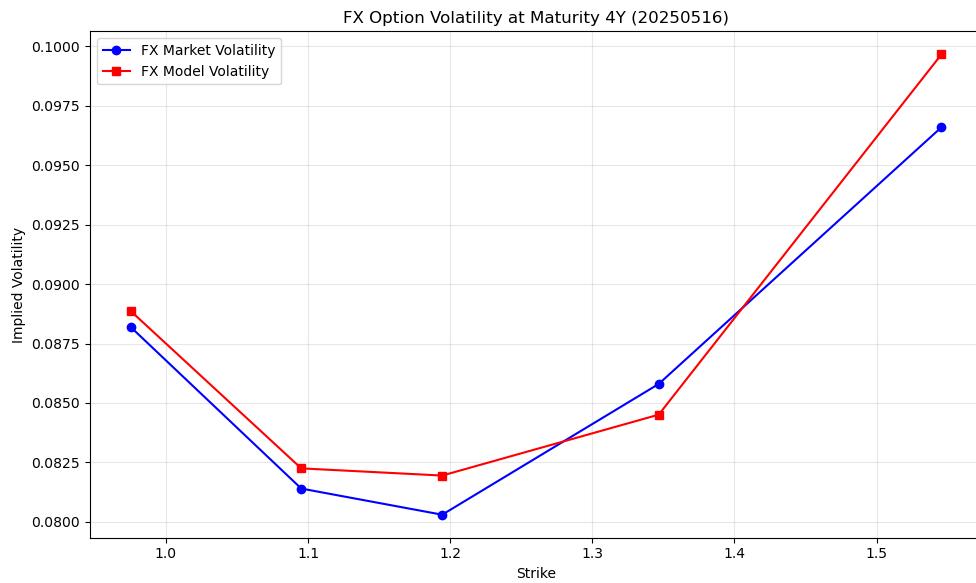


Figure 12: FX Implied Volatility Surface for May 16, 2025

3.5 Calibration Results for May 30, 2025

3.5.1 Domestic Curve Analysis

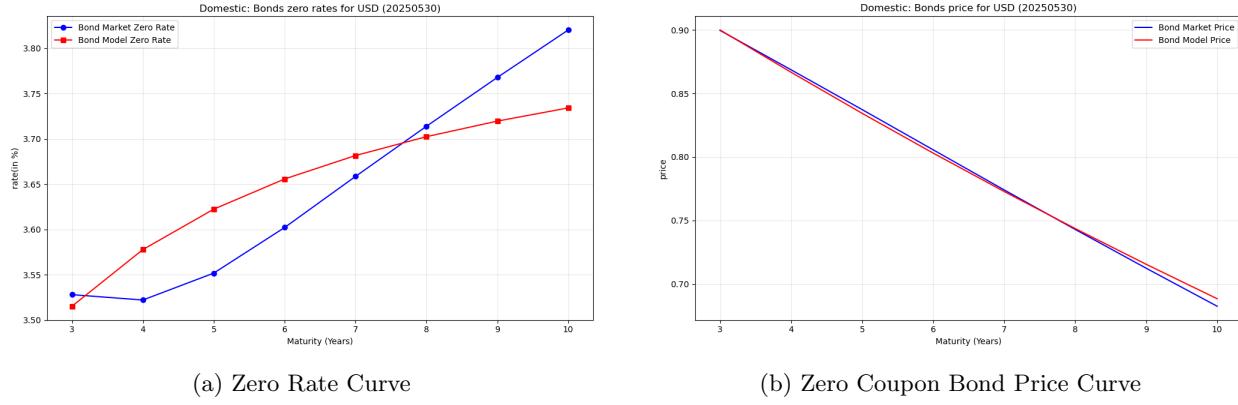


Figure 13: Domestic Curve Calibration Results for May 30, 2025

3.5.2 Foreign Curve Analysis

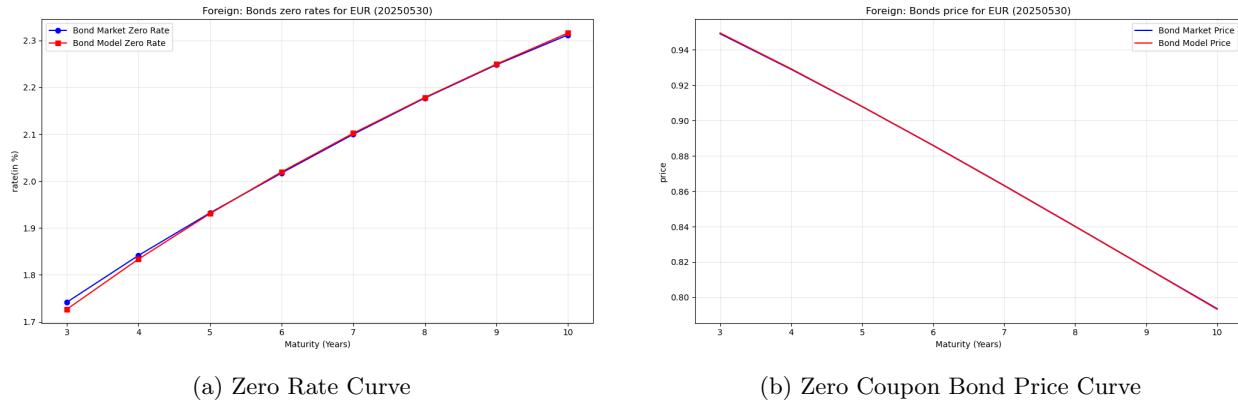


Figure 14: Foreign Curve Calibration Results for May 30, 2025

3.5.3 FX Volatility Surface

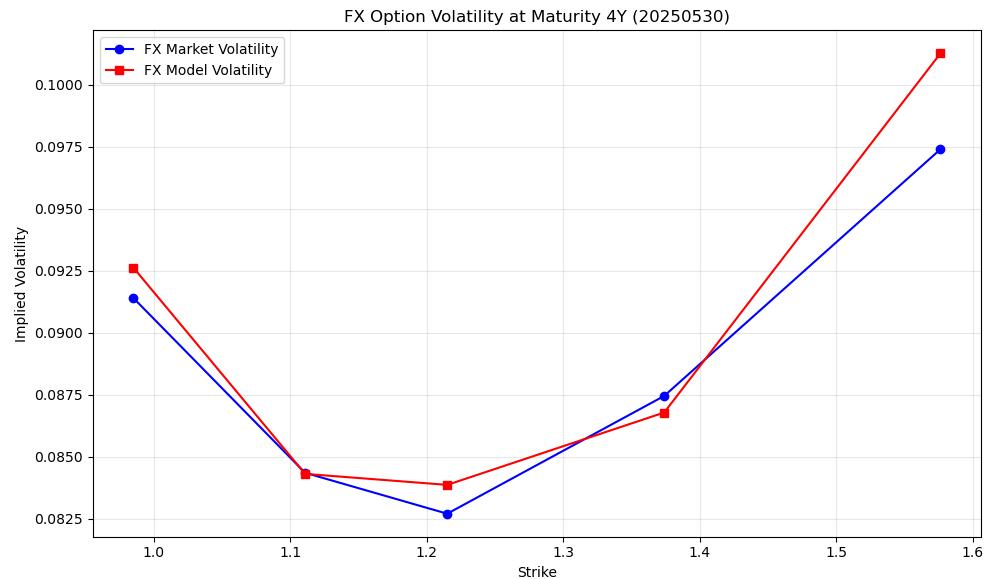


Figure 15: FX Implied Volatility Surface for May 30, 2025