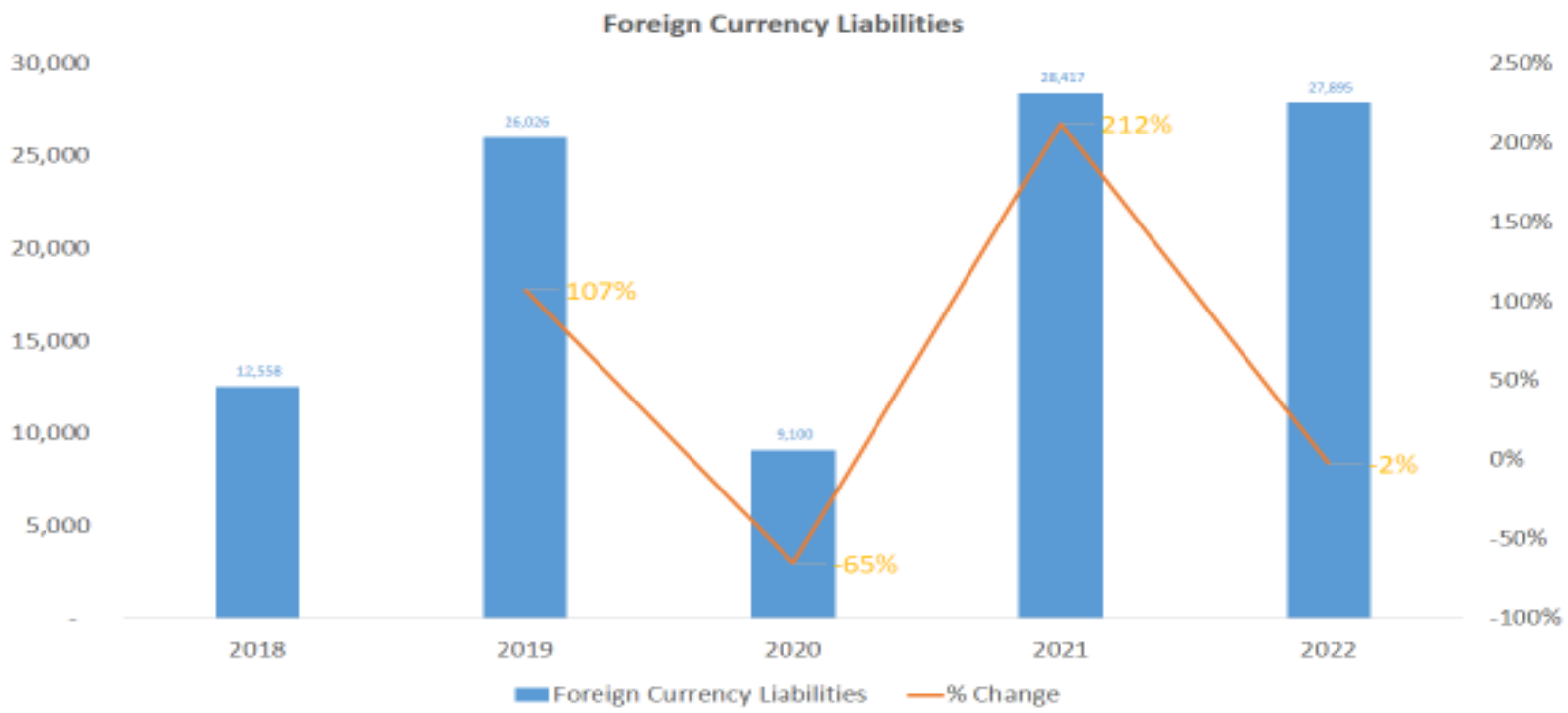


Fx liabilities & Interest Rates- Risk, Volatilities and Regulations

India FC Liabilities Mobilisation - \$mn



Source: RBI

India's External Debt

India External Debt- in \$ MN



Source: Trading Economics

Characteristics

Foreign currency Liability

Fx denominated loans (FCNR loans, FCTL, ECBs, fx loans more than 6 months)

Advantages & Disadvantages

FX Risk

To highlight characteristics of foreign currency risk borrowing

Fx data

Variables to Watch

Advantages of FX borrowings

Long tenor financing, ECB, FCTL, FCNR/ Synthetic Fx liability

Cost of borrowing can be dynamically managed and possibility of lower cost than domestic borrowings

Diversification of borrowing

Debt capital for future growth

Associated Risks of Fx borrowings

Currency Risk

- Depreciation of INR against USD/Fx on account of principal and interest repayments

Interest Rate Risk

- Risk of USD/fx Libor moving higher and the premium cost (interest rate differentials) of hedging the principal and interest repayment

Risk - Sensitivity

| Particulars | Higher | Lower |
|------------------|----------|----------|
| USD/Fx INR rate | Negative | Positive |
| USD/Fx RFR | Negative | Positive |
| Hedging Premiums | Negative | Positive |

Risk Hedging

| Particulars | Higher | Characterstics | Products |
|------------------|----------|--|--|
| USD/Fx INR rate | Negative | Currency Risk on Principal Portion and Interest rate portion | Prinicipal only Swap, CCIRS, Vanila Options and combination of Options |
| USD/Fx RFR | Negative | Fx interest rate going higher | Interest rate swaps, Coupon only Swaps, Caps and Foors |
| Hedging Premiums | Negative | Interest rate differentials | Not permitted, but can be replicated thru our exports expsoures |

ECBs- Major Borrowing Source

- Framework
 - FCY/INR denomination
 - Forms: Floating/Fixed, Debentures, bonds, convertibles, Trade credits, FCCB, FCEB and Financial lease
 - Eligible borrowers
 - Lenders
 - Minimum Average maturity
 - All in cost
 - End uses
 - Hedging provisions
- Limits and Leverage
- Issuance of guarantee
- Application process
- RBI's Compliance

- Trade Credit Framework

RBI- ECB Hedging – RBI Working Paper

- *The ideal position would be to have at least 63 percent of the total exposure of the External Commercial Borrowings (ECBs) hedged at the system level (at the organizational portfolio level), said a working paper from an RBI economist. Rules have however been evolving depending on the prevailing market conditions*
- **Need of Hedging:**
 - Liberalisation
 - Mandate
 - Unhedged fx risk pose financial risk
 - Natural/ Financial hedge
- **Hedging Requirements:**
 - Sector and Tenor
 - Mandatory/Discretionary
- **Hedging Instruments and Cost:** As a significant portion of the corporates availing ECBs hedge their exposure using derivatives (like currency swaps, interest rate swaps, currency forward and currency futures contracts, and currency options), there is a need to evaluate the total cost incurred on a loan which is hedged. The movements of the INR MIFOR10 curve for 5 years indicate that it was at the peak of 8.2 percent and 7.6 percent, in March 2014 and in September 2018, respectively. If the agreement cost of a loan is USD 6M LIBOR plus 450 basis points (bps), the equivalent total cost on the same hedged loan would translate to 12-13 percent. This, however, ignores - (a) conversion of spread over USD 6M LIBOR of 450 bps into its equivalent MIFOR, which may turn out to be nearly 45 bps, and (b) other costs like extra risk premium due to inherent counterparty credit risk, transaction cost, etc., which may range in 40-80 bps, depending upon the credit rating of entities.
- **High Volatility after Global Financial Crisis (GFC)**

To sum up the paper for hedging, in times of typical high FX volatility, firms issuing ECBs may take recourse to hedge their exposure financially/naturally in the range [63 percent, 66 percent], which would translate to the total cost on loan, including hedging cost, proportional to nearly 9 percent. Moreover, this strategy is likely to lead to protection against forex risk, as FX VaR reduces by 33 percent.

Currency & Rates movement – Depreciating & Volatile INR



Currency & Rates movement – EUR, historical moves are very significant 2002 and 2006



Currency & Rates movement – Depreciating & Volatile INR, more Vs EUR



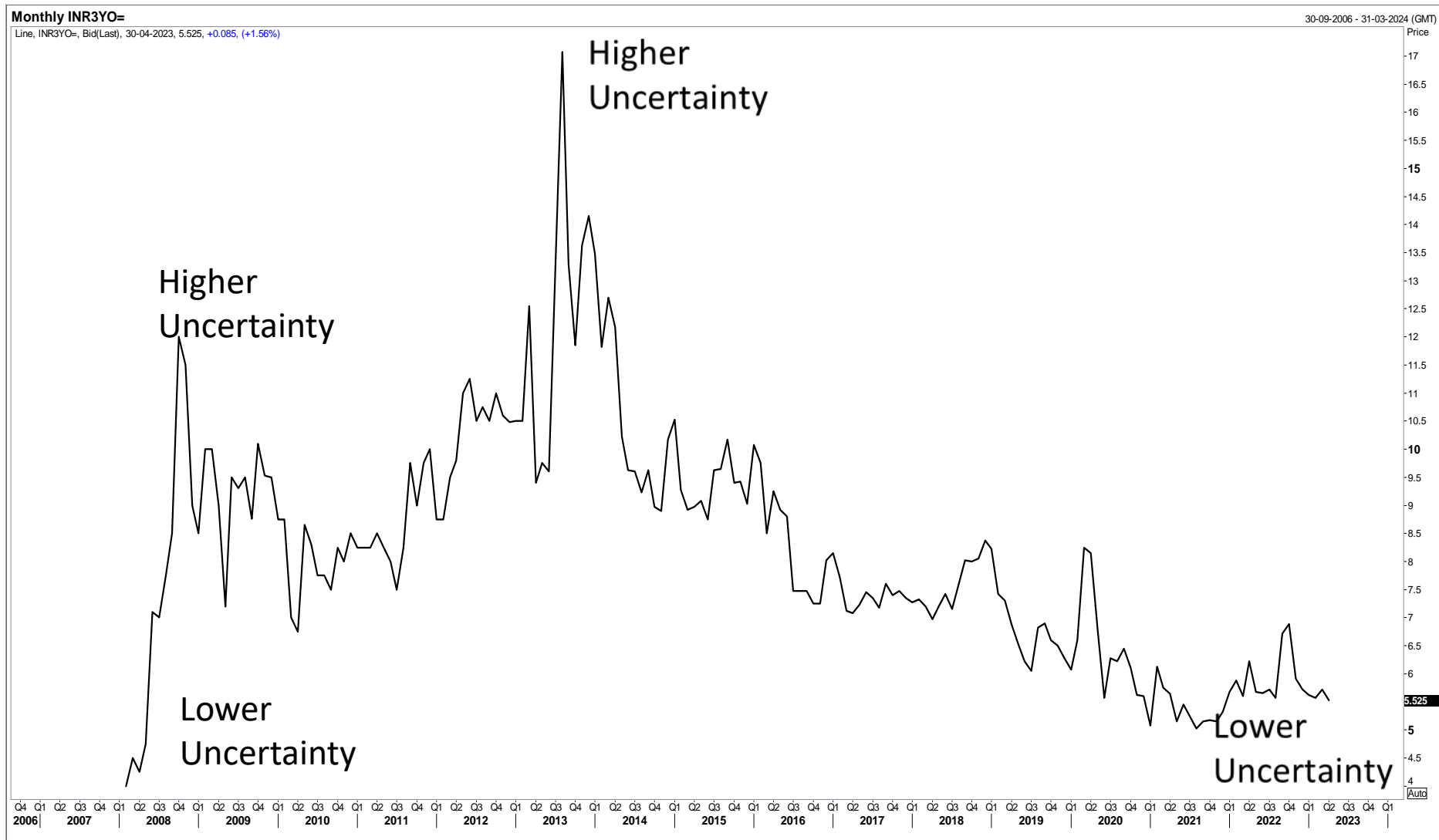
Currency & Rates movement – The most used funding currency- JPY



Currency & Rates movement – JPY Against INR

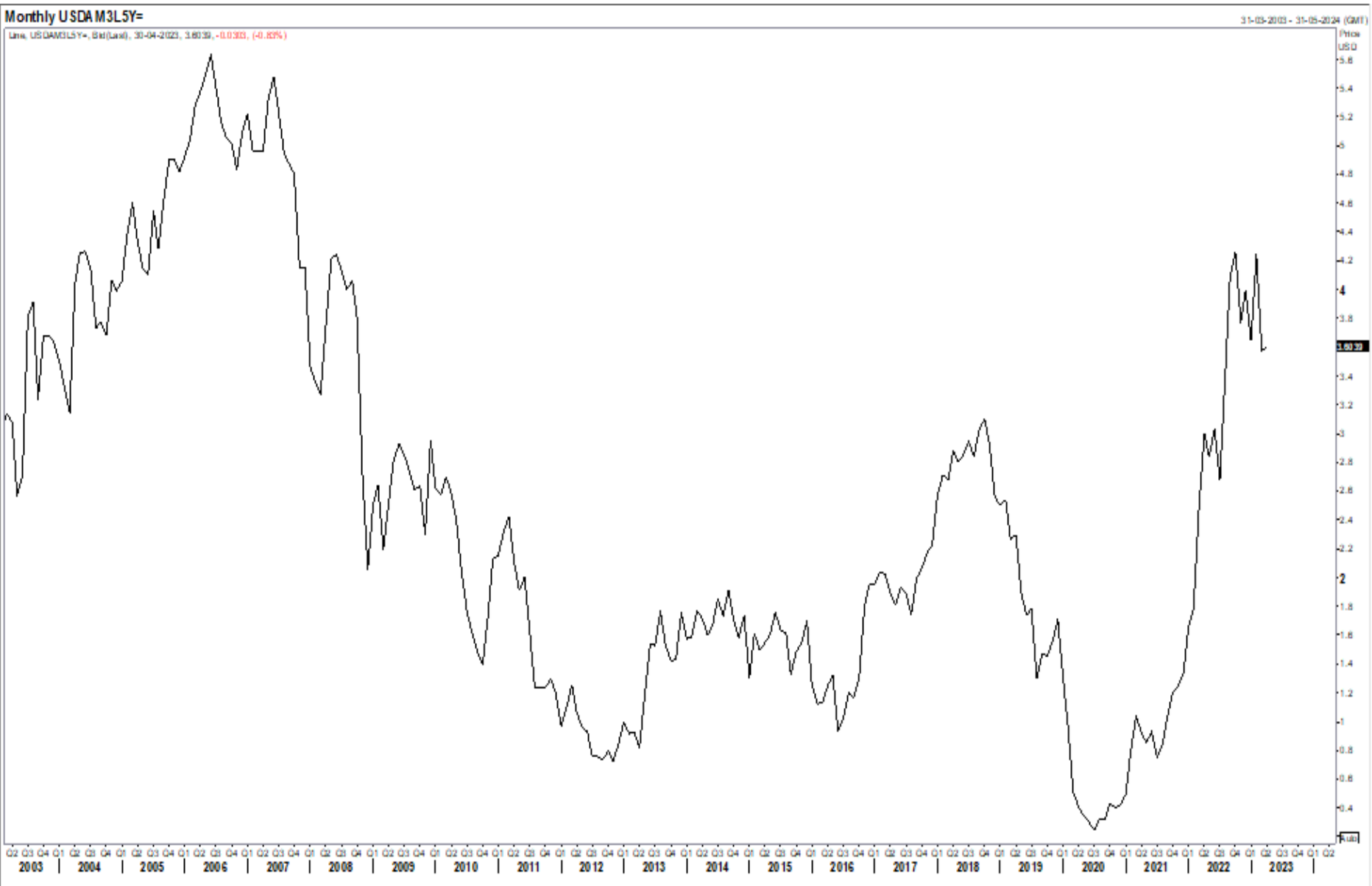


Currency Volatility- USD INR



Currency and Interest Rates

Swap Rate - USD



Currency and Interest Rates

Swap Rate- EUR



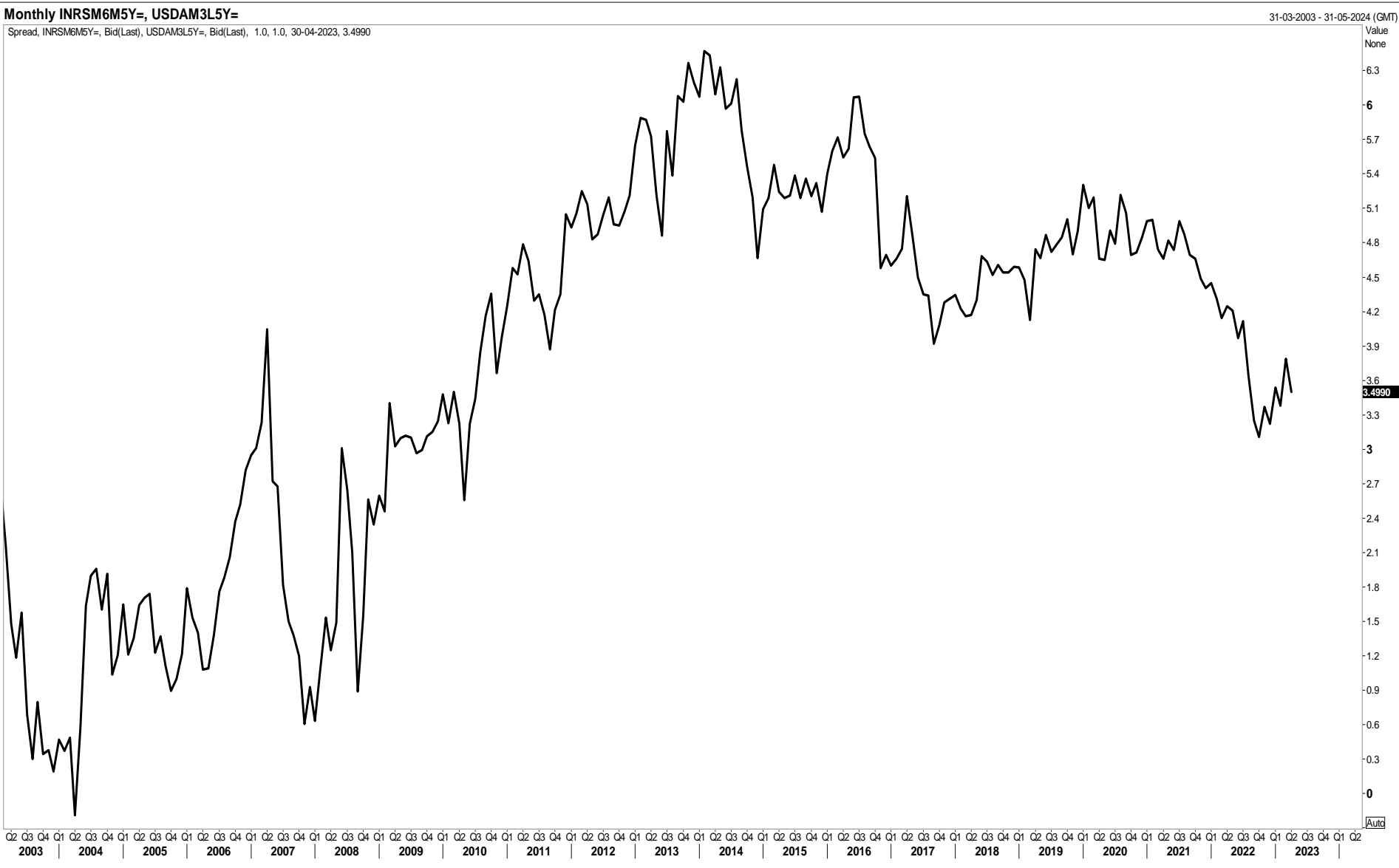
Currency & Rates movement – INR swap rate - 5 years

Monthly INRSM6M5Y= 28-02-2001 - 30-06-2024 (GMT)

Line, INRSM6M5Y=, Bid(Last), 30-04-2023, 7.1000, +0.0200, (+0.28%)



Currency & Rates movement – Difference in USD and INR rate

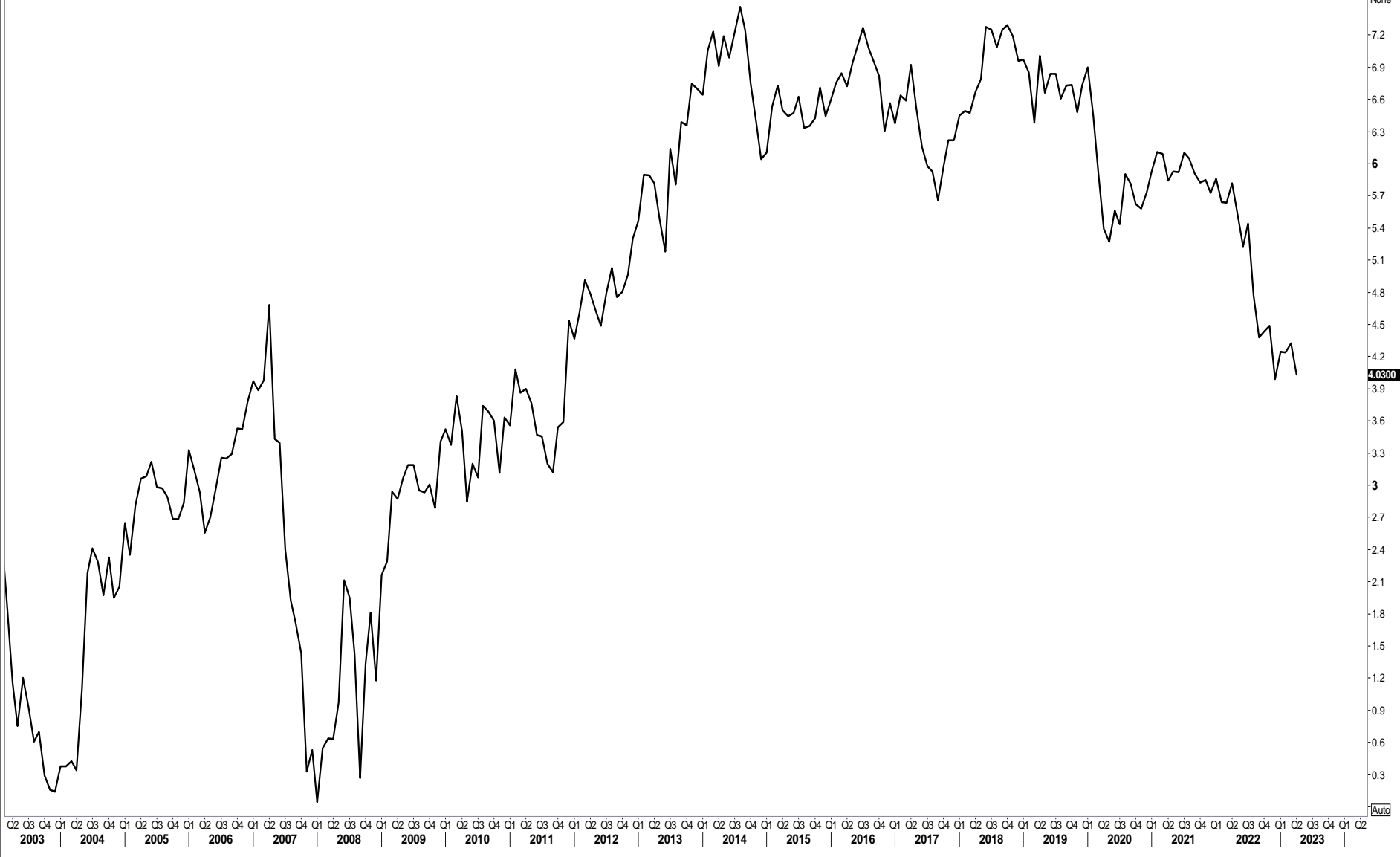


Currency & Rates movement – Difference in EUR and INR rate

Monthly INRSM6M5Y=, EURAB6E5Y=

31-03-2003 - 31-05-2024 (GMT)

Spread, INRSM6M5Y=, Bid(Last), EURAB6E5Y=, Bid(Last), 1.0, 1.0, 30-04-2023, 4.0300



Value

None

4.0300

Auto

Range Movement of EUR INR and USD INR

| Year Ending | H-L | % terms | H-L | % terms |
|-------------|-------|---------|-------|---------|
| 31-12-2002 | 1.15 | 2.39 | 9.02 | 21.02 |
| 31-12-2003 | 2.82 | 5.87 | 8.23 | 16.35 |
| 31-12-2004 | 3.19 | 6.99 | 8.29 | 14.43 |
| 31-12-2005 | 3.27 | 7.53 | 7.40 | 12.64 |
| 31-12-2006 | 3.01 | 6.67 | 7.76 | 14.57 |
| 31-12-2007 | 5.52 | 12.48 | 5.70 | 9.79 |
| 31-12-2008 | 11.38 | 28.88 | 13.21 | 23.00 |
| 31-12-2009 | 6.37 | 13.09 | 9.91 | 14.61 |
| 31-12-2010 | 3.77 | 8.09 | 11.75 | 17.67 |
| 31-12-2011 | 10.45 | 23.36 | 13.15 | 22.04 |
| 31-12-2012 | 8.73 | 16.37 | 9.53 | 13.90 |
| 31-12-2013 | 15.97 | 29.09 | 22.84 | 31.58 |
| 31-12-2014 | 5.56 | 9.00 | 10.88 | 12.81 |
| 31-12-2015 | 5.84 | 9.24 | 12.55 | 16.46 |
| 31-12-2016 | 2.80 | 4.22 | 7.49 | 10.41 |
| 31-12-2017 | 4.79 | 7.05 | 9.97 | 13.94 |
| 31-12-2018 | 11.25 | 17.61 | 10.32 | 13.47 |
| 31-12-2019 | 4.11 | 5.91 | 6.29 | 7.89 |
| 31-12-2020 | 6.18 | 8.65 | 13.57 | 16.96 |
| 31-12-2021 | 4.06 | 5.55 | 7.62 | 8.54 |
| 31-12-2022 | 9.52 | 12.8 | 11.02 | 13 |

Factors to Monitor

- Macro data
 - GDP growth, Inflation, Currency, Interest rates, other markets moves
- Micro data
 - Industrial, Corporate, Counterparty risk
- RBI Regulations
 - Borrowing, cancellation, products suite
- Fx swap rates
 - Spot rates, forward rates, forward to forward rates
- INR swap rates
 - Spot rates, forward rates, forward to forward rates, linkage to other interest rates
- Credit spreads and Regulatory charges

Factors to be considered for long term fx borrowings

- Pre borrowing
 - Evaluation of fx borrowing options vis a vis domestic borrowing
 - Preparation of fx risk management policy for borrowings
 - Appropriateness of fx borrowings in overall business risk
 - Scenario analysis and Stress analysis
 - Recommendation on choice of currency, tenor, nature of benchmark and interest rates after detailed evaluation
- Draw Down
 - Assist in planning the cashflow and booking contracts for inflows if required
 - Assist in conversion of flows and optimize conversion rates
- Post Draw Down & management of fx exposures
 - Hedging according to RBI guidelines
 - Hedging program for currency risk and interest rate risk using long term cycles and volatility methods
 - Negotiation with Banks on hedging (swap) costs and other related cost
- Performance benchmarking
 - Effectiveness of hedge programming vis a vis planning
 - Borrowing cost on Fx liability vs Indian loan

Approach towards Long Term FX liability

- As a practice and risk management, it is advised to manage Fx borrowing as a separate risk and benchmark to be measured comparative INR cost of borrowings
- This makes clear distinction between revenue and capital management, so product prices are irrespective level of borrowing rates
- In long term borrowing, more risk capital should be allocated to manage this risk
- RBI regulations permit active management of such liabilities
- Need to manage both interest rates and currency risk
- Hedge accounting can take care of volatility but economic risk should be efficiently managed
- Need more details on date of borrowing and rates