NOTE

THE WORLD BANK
Treasury

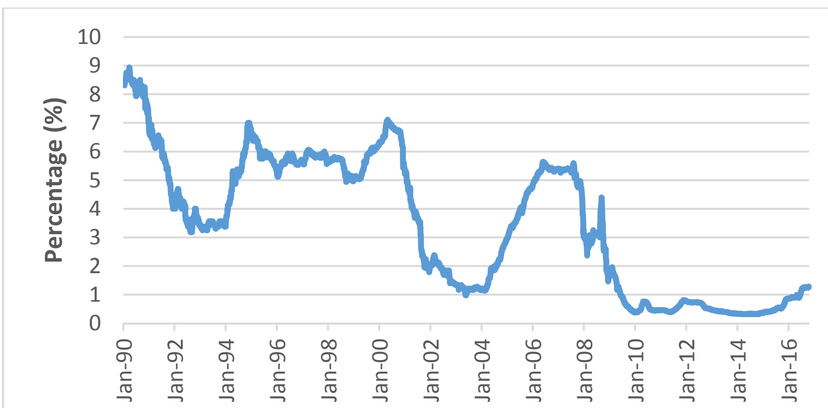
Interest Rate Risk Management | Nov 2016

Borrowing at a floating interest rate exposes borrowers to interest rate risk. As the reference rate changes over time, borrowers who pay floating interest rates will see their interest payments fluctuate depending on market conditions. Rising interest rates increase debt servicing costs and negatively affect economic performance, putting pressure on the country's budget and imposing either spending cuts or higher deficits. Emergent and developing countries often have limited financial capacity to bear these risks.

Market environment

Interest rates have been relatively low and stable since the crisis in 2009, with an annualized daily volatility of 11%. However, rates have been higher and more volatile in the past. For example, from 1995 to 2000, rates were at 5.72% on average. Volatility over the previous five year period (2006 to 2011) was also much higher (24%), reaching 25% following the crisis in 2009. Figure 1 shows the fluctuation of the six-month USD LIBOR rate from 1990 to present.

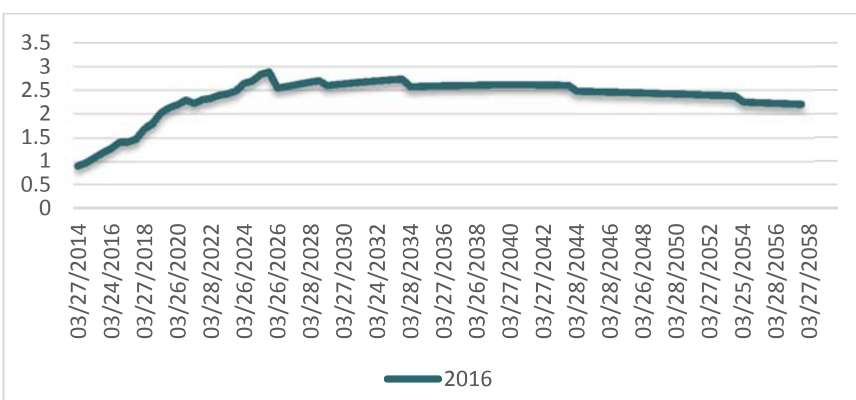
Figure 1. Historical USD Six-month LIBOR Rate (1990 to November 2016)



Source: Bloomberg

Currently the market is expecting rates to increase as illustrated in the interest rate projections from Bloomberg as of November 11, 2016 in Figure 2.

Figure 2. Six-month USD LIBOR Projections (market consensus)



Source: Bloomberg

Note: Market consensus levels of LIBOR projections are based on the market's forecast of forward rates and may not be an accurate predictor of future interest rates. The World Bank does not project LIBOR rates.

Managing interest rate risk

Interest rate risk can be mitigated by reducing the exposure of the government's portfolio to floating rates, either by issuing new debt or by modifying the characteristics of outstanding floating rate debt. The decision to fix the interest rate should be based on a cost-risk analysis as part of a robust debt management strategy set by the government. Sound debt management practices help governments reduce exposure to financial risks.

As part of their debt management strategies, many governments establish targets or ranges for key risk indicators to guide borrowing activities and other debt transactions. For example, Country X may set a target of holding 60% of the total debt in the sovereign debt portfolio in fixed rate.

Reducing exposure to interest rate risk by issuing new debt may take more time compared to using derivatives. However, many developing country borrowers have limited access to derivatives, especially sub-national borrowers and state-owned enterprises. One way that Country X can achieve the target mix of fixed versus floating rate debt is by fixing the interest rate on its IBRD loans.

Fixing the interest rate on IBRD loans

The IBRD Flexible Loan is based on a floating reference rate, usually six-month LIBOR plus a spread that is either fixed over the life of the loan or variable from one semester to another. While the advantage of a floating interest rate loan is that the borrower can benefit from decreases in interest rates during the life of the loan, the interest rate could also increase.

An IBRD loan based on 6- month LIBOR and a variable spread exposes the borrower to interest rate risk. While both the LIBOR component and the variable spread expose borrowers to rate increase, the LIBOR has a more significant impact.

IBRD interest rate risk management solutions

IBRD borrowers can mitigate interest rate risk by fixing the interest rate on IBRD loans. Since 2001, IBRD borrowers in 44 countries have fixed the interest rate on a total of $63.5 bn. Some countries have systematically fixed most of their IBRD loan portfolio, while others have fixed rates on an *ad-hoc* basis.

Borrowers can fix the interest rate on IBRD loans using:

1) **Conversions:** Conversions are the most commonly used solution by IBRD borrowers. Provisions in the loan agreement allow the borrower to fix the interest rate of all or part of the disbursed and outstanding balance of an IBRD loan. Borrowers have to select the option to add these provisions in the loan agreement during negotiations. They can establish a pre-specified schedule of rate fixings (e.g., on each interest payment date, annually or on some other frequency) at loan negotiation or request conversions on an *ad hoc* basis anytime during the life of the loan. They can also unfix or refix the rate on disbursed amounts at any time during the life of the loan. Pricing is at market terms. Transaction fees may apply. See Annex.

   Procedures: The borrower submits a request for conversion to IBRD through a form available on the World Bank Treasury website: http://treasury.worldbank.org/bdm/htm/Loan_Conversion_Options.html. No additional agreements are required. Guidelines for conversion of loan terms are available on the World Bank Treasury website: http://treasury.worldbank.org/bdm/pdf/ConversionGuidelines.6thEdition.0402014.pdf.

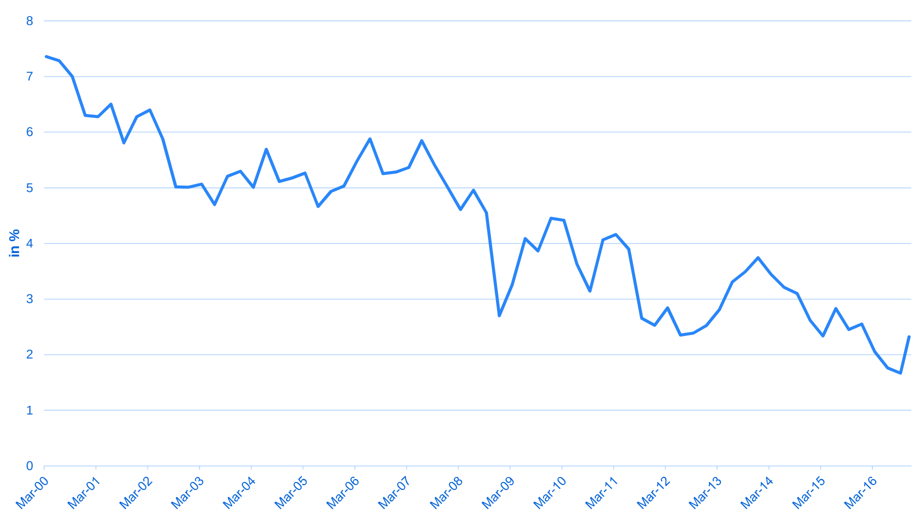
2) **Interest rate swaps:** IBRD interest rate swaps allow the borrower to fix the interest rate risk on new IBRD loans, legacy loan products such as IBRD Variable Spread Loans (VSLs), and liabilities to third parties (outstanding bonds or loans with other lenders). Borrowers that wish to use interest rate swaps enter into a master derivatives agreement with IBRD. Transaction fees may apply. See Annex.

Procedures: The borrower may at any time submit a request for a swap transaction to fix the interest rate of the principal amount withdrawn and outstanding of a loan. The borrower submits the request through a form available on the World Bank Treasury website: http://treasury.worldbank.org/web/IRS_Hedging_Req_fill_in_form.pdf. Guidelines for hedging transactions are also available on the Treasury website: http://treasury.worldbank.org/web/HedgingGuidelines.2ndEdition.final.032309.pdf.

3) **Interest rate caps and collars:** The borrower can also use interest rate caps and collars for protection against rising interest rates. Interest rate caps are individually negotiated transactions which set an upper limit on the interest a borrower would pay on a floating rate loan. Interest rate collars are individually negotiated transactions which set an upper and a lower limit on the interest a borrower would pay on a floating rate loan. Transaction fees may apply. See Annex.

USD 20-year swap rates are currently close to historical lows (see Figure 3), although trending upwards, suggesting that long-term rates can be fixed at historically low rates now and that the market expects increases in the future.

Figure 3. USD 20-year Swap Rates



Source: Bloomberg

Indicative Fixed Rates as of November 11, 2016

Loan Terms	Fully Fixed (Fixed LIBOR + Fixed Spread)	Partially Fixed (Fixed LIBOR + Variable Spread)
29.5 year final maturity including 10 years grace, level repayment	4.095%	3.355%
25 year final maturity including 5 years grace, level repayment	3.908%	3.268%
20 year final maturity including 5 years grace, level repayment	3.585%	2.995%

Note: The above rates are relevant for a particular point in time and will change as market conditions change. See Annex for pricing.

Advantages of working with IBRD to fix interest rates

- **IBRD has a AAA credit rated rating, which reduces the country's exposure to counterparty risk.** This is key given the bankruptcy of several prestigious financial institutions during the 2009 financial crisis and the deterioration of the credit rating of most financial institutions in the financial market.
- **IBRD does not require borrowers to post collateral or charge additional fees in lieu of collateral.** Commercial counterparties typically require the country to post collateral, or charge additional fees when a country is unable to post collateral.
- **IBRD does not charge borrowers for credit risk and provides the same competitive pricing to all borrowers**. Commercial counterparties also charge clients for credit risk.
- **Loan conversions are administratively simple for borrowers.** Conversion provisions are embedded in the IBRD loan. No additional documentation is required. Commercial counterparties require countries to sign an ISDA agreement which is expensive, time-consuming and complex.
- **IBRD can provide technical assistance and capacity building in derivative pricing and execution.**

The fixed interest rate eliminates uncertainty as the borrower's interest rate remains the same for the life of the loan. The predictability of a fixed rate loan can also help the borrower budget for the cash outflows over time more easily. **IBRD can help sovereigns with exposure to floating interest rates reduce the exposure as part of a debt management strategy. The World Bank Treasury can provide indicative fixed rates for specific loans and execute transactions.**

For information:
Miguel Navarro-Martin
Head of Banking Products
World Bank Treasury
mnavarromartin@worldbank.org

Annex: Transaction fees

Loan Conversions		
Transaction	Fees	
Interest rate conversion Rate fixings of disbursed amounts	USD [1] 0.050%	EUR [1] JPY [1] 0.100%
Changing from variable spread to fixed spread [2]	0.030%	

[1] Currency of the loan
[2] The variable spread over the reference rate may be changed to a fixed spread over the reference rate, but not vice-versa. Such "fixing" of the variable spread will be effected based on the fixed spread applicable to the loan prevailing at the time of the request.

Interest Rate Swaps		
Transaction	Fees	
Interest rate swaps on IBRD loans	0.010%	
Interest rate swaps on liabilities to others	Major currencies 0.030%	Local currencies 0.010% Expressed as a percentage of the principal amount involved, and payable as a lump sum.

Interest Rate Caps and Collars	
Transaction	Fees
Interest rate caps and collars on IBRD loans	0.125% [1]

[1] Expressed as a percentage of the principal amount involved, and payable as a lump sum.