

Circulation Paper

Debt Management Unit

Variable Interest Rate Borrowing - Are Commonwealth Member States worse off after transitioning from LIBOR to SOFR?¹

Overview

The rise in economic distress around the world as a result of the COVID-19 pandemic and supply disruptions and energy shortages caused by the war in Ukraine are exacerbating inflation across the globe. Inflation reached multi-decade highs in many countries, resulting in aggressive policy push to tighten interest rates in order to tame inflationary pressures. The US policy interest rates have risen to the target range of 5.00% to 5.25% by May 3, 2023, from the target range of 0.25% to 0.50% on March 17, 2022. The trend is similar across majority of advanced and developing economies. As a result, a considerable proportion of the debt service obligations of the lower and upper middle-income economies linked to variable benchmark interest rates² surged, signifying the high correlation between US policy interest rates and variable reference rates, irrespective of transition from widely used London Interbank Offered Rate (LIBOR) to other reference rates. The LIBOR are expected to be discontinued and replaced with other benchmark reference rates (e.g., Secured Overnight Financing Rate (SOFR) for US Dollars (USD) financing and Secured Overnight Index Average (SONIA) for Sterling Pounds (GBP) financing). The surge in policy interest rates is yet to dissipate, predominantly to address inflationary expectations, resulting in the rise of variable benchmark reference rates. Consequently, most countries experienced a substantive increase in debt service payments arising from variable (floating) rate debt components.

From the development perspective, political and policy authorities argue that the increase in debt service payments by millions of USD for debts secured during the COVID-19 pandemic, makes no sense. The debt tied to LIBOR, the bank rate and other reference rates, borrowed in a time of crisis, became costly to service as interest rates surged. There are also episodes of matured market access economies gradually shifting their LIBOR linked

¹ Authored by Mohamed Z M Aazim, Vikas Pandey and Boakye-Mensah, Difie. Views expressed are of the authors and in line with materials referred.

² Interest rate benchmarks - also known as reference rates - are regularly updated and publicly accessible. Benchmark rates are calculated by an independent body, most often to reflect the cost of borrowing money in different markets. Benchmark rates are useful if they are considered reliable and unbiased and should be calculated in a transparent manner.

floating debt instruments to fixed rate obligations thus absolving their debt portfolios from volatilities in debt service payments and spikes in reference rates. Another set of countries experience the gradual alignment to the new reference rate, SOFR and other reference benchmarks interest rates. Almost all countries are exploring avenues to manage and reduce debt service payments and liabilities.

The signalling of end of LIBOR began in the summer of 2017 and the decision to winddown from June 30, 2023, has been cited repeatedly by financial markets. The winddown of LIBOR was prompted by the preference of financial markets for a more transparent approach and less volatile benchmark for variable rate financial contracts. As parties begun the transition from LIBOR to other benchmarks, majority of them to SOFR, policy considerations emerged among borrowing economies and that of creditors to best plan application of benchmark variable reference rates for future debt contracts while also addressing possible remedies to LIBOR based debt servicing that were set in prior periods but scheduled to end after June 30, 2023.

This paper reviews the impact of spikes in LIBOR and the replacement reference rates, widely applied SOFR, alongside US policy interest rates and to present a scenario of a USD 1 billion hypothetical debt portfolio incurring additional costs in terms of debt service payments. Additionally, it explores implications of a rising US policy interest rate to the same hypothetical portfolio by applying the reference benchmark rate SOFR. The discussion note concludes with policy options that the countries can consider, particularly the Commonwealth member states, in application of strategies to address the gradual replacement of LIBOR to applicable benchmark reference rate(s) and other policy options to manage debt service payments. The Secretariat encourages member states to ensure they have clear plans, resourcing, and oversight in place to support a smooth transition and explore available policy options to manage the debt service cost arising from recent surge in reference benchmarks.

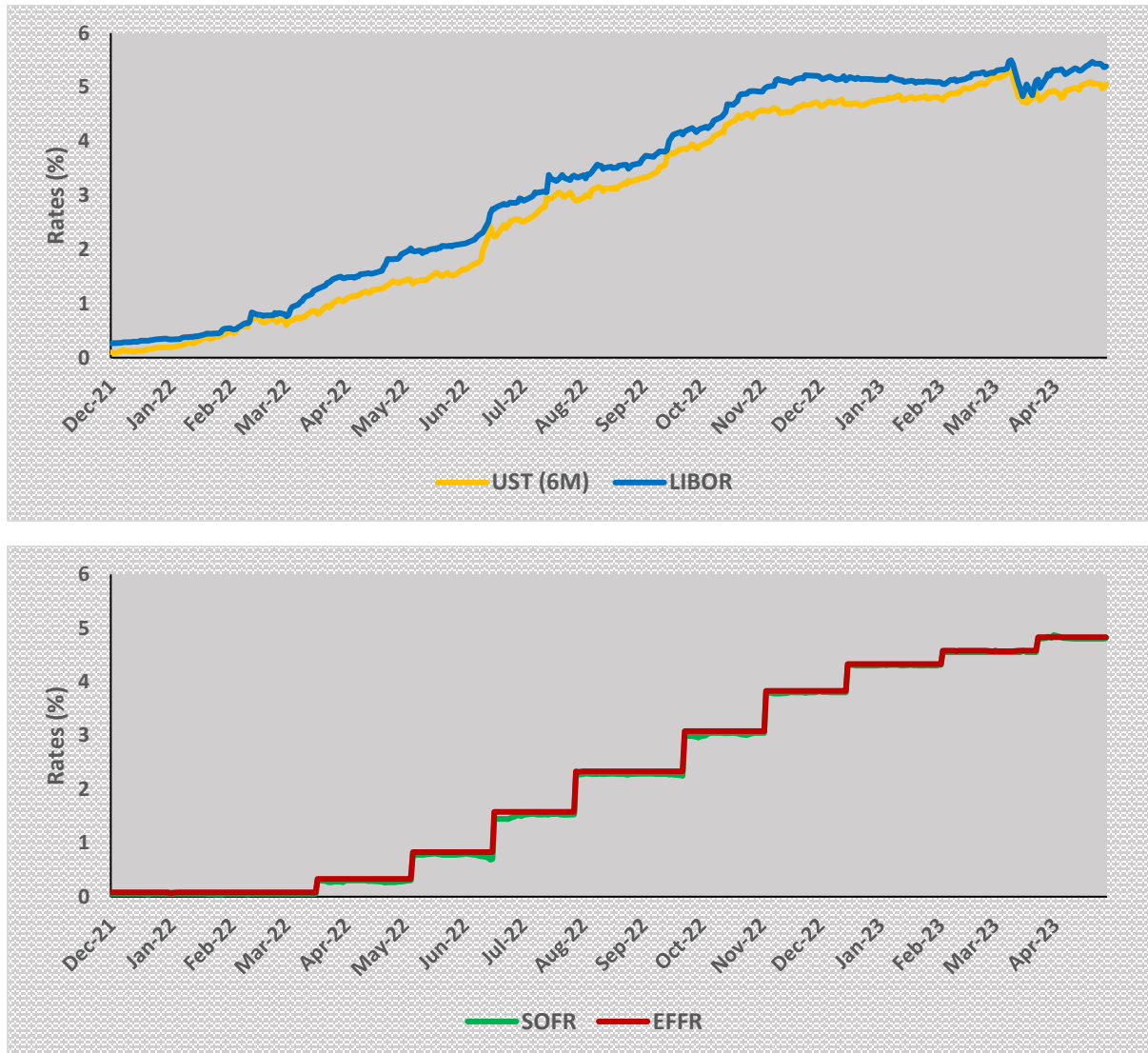
Behaviour of LIBOR and the replacement reference rates, widely applied SOFR, alongside US policy interest rates

This section reviews the movement in LIBOR and SOFR against the Effective Federal Funds Rate (EFFR)³ and the US Treasury (UST) yields, from December 2021 to April 2023. It can be observed from figure 1 that reference rates have trended upwards in the past two years in line with US policy interest rate (EFFR) and market expectations of EFFR behaviour. On average, reference interest rates and market interest rates have increased by over 400 basis points over the period though the LIBOR rates remain higher than the SOFR rates. The upward trajectory of reference and market interest rates largely reflect the movement in

³ The federal funds target range is the US policy interest rate determined by the Federal Open Market Committee. Arising from this, EFFR is calculated as the effective median interest rate of overnight federal funds transactions.

the EFFR. The charts are depicted to reflect usual 6-month maturity LIBOR with 6-month UST and overnight rates of EFFR and SOFR.

Figure 1: Behaviour of Reference Rates and Market Interest Rates: December 2021 to April 2023



Source; Authors calculation

The rate differentials in the LIBOR and SOFR is fundamentally due to the unique characteristics of these reference rates. The SOFR, which is a secured overnight rate, shows a stronger positive correlation to the EFFR relative to the LIBOR. The LIBOR is, however, forward looking and builds into its pricing, market expectations and anticipated policy actions. The SOFR on the other hand shows a lagged or aligned response to the EFFR. The market expectations reflected in LIBOR is waning in the recent period as it is expected to winddown.

The LIBOR has been higher than the SOFR during the period under review. The difference (*neutral of SOFR spread adjustment*) can be attributed to the credit risk premium embedded in the LIBOR compared to the SOFR. SOFR is backed by underlying UST collateral. The International Securities and Derivatives Association (ISDA)⁴ has introduced some guidelines on the credit spread adjustment which is currently based on a 5-year historical difference between the LIBOR and the SOFR. The spread adjustment for the 6-month SOFR is currently 42.83 basis points. Any further credit margins, over and above the spread adjustment, often quantified in terms of the creditworthiness of the borrower and application of interest rate conventions for existing and new loans by the parties to financial transactions.

Hypothetical debt portfolio and its cost overruns and increase in US policy interest rates by a further 25 basis points

A comparison of the effective variable interest rates and interest costs was undertaken for a portfolio with a notional stock of USD 1 billion in variable rate debt linked to LIBOR or SOFR during 2022 and 2023⁵. Following 4 types of interest rate scenarios were considered and applied for the portfolio.

- a. LIBOR based with interest reset at start of the interest period,
- b. LIBOR based with daily reset of interest rates,
- c. SOFR based with no additional spread, and
- d. SOFR with additional spread of 42.83 basis points (as per ISDA guidelines).

The actual LIBOR and SOFR rates until end-May 2023 have been used in the analysis. A further increase of 25 basis points is assumed for 2nd half of 2023.

Table 1 shows the effective interest rates for the 4 scenarios above.

Table 1: Effective Interest Rates				
Instrument	H1 - 2022	H2 - 2022	H1 - 2023	H2 - 2023
LIBOR - No reset	0.34%	2.90%	5.14%	5.90%
LIBOR - Daily Reset	1.43%	4.26%	5.41%	5.90%
SOFR - No additional spread	0.40%	2.96%	4.86%	5.50%
SOFR - With additional spread	0.83%	3.40%	5.29%	5.94%

⁴ LIBOR Cessation and the Impact on Fallbacks - International Swaps and Derivatives Association (isda.org)

⁵The calculations are based only on the reference rates and excludes any fixed or variable spread associated with floating rate debt under the assumption that it remains constant and same for both LIBOR and SOFR.

The LIBOR rates have increased from 0.34% at the beginning of 2022 to 5.14% at end-April 2023. The effective interest rate for the LIBOR instruments with daily reset has increased from 1.43% to 5.41% (and 5.90% with an expectation of a further 25 basis points rise in 2nd half of 2023) whereas the effective rate for SOFR based instrument has changed from 0.40% to 4.86% (and 5.50% with an assumption of a further 25 basis points rise in 2nd half of 2023). If the additional spread of 42.83 basis points, as per the ISDA guidelines is added, the effective interest rate for SOFR based instruments would increase from 0.83% to 5.94% during the same 2-year period. The overall increase in effective interest rate during the 2-year period ranges from 350 basis points to 565 basis points across the 4 types of floating rate scenarios/ instruments.

The interest costs for above 4 notional scenarios are shown in the table 2.

Table 2: Total Interest Cost (USD Million)					
Instrument	H1 - 2022	H2 - 2022	H1 - 2023	H2 - 2023	Overall Change (%)
LIBOR - No reset	1.703	14.819	25.837	30.156	1671%
LIBOR - Daily Reset	7.205	21.788	27.128	30.156	319%
SOFR - No additional spread	2.010	14.794	24.285	27.508	1269%
SOFR - With additional spread	4.163	16.983	26.439	29.697	613%

As can be noted from table 2, the debt service costs on the variable rate debt would have risen between 319% to 1671% over the 2-year period from January 2022.

Besides, a comparison between LIBOR and SOFR based instruments shows that the interest cost based on SOFR is lower than LIBOR if the spread remained the same which is expected given that SOFR rates are based on secured lending. However, there is very little difference in the interest cost when adjusted for the spread adjustment of 42.83 basis points as per the ISDA guidelines.

Therefore, it can be concluded that the surge in debt service payments by many folds is arising from upward movement in the US policy rate during the reference period and has not been impacted by the transition from LIBOR to SOFR.

Policy options for Commonwealth member states for consideration - review of variable reference rates linked finances

It is observed that the debt service payments linked to reference benchmarks increased significantly while the financing conditions have tightened for middle and lower-middle income countries since the break-out of the Covid-19 pandemic and further aggravated by global uncertainties and capital flight for safety. Global responses to tame the inflationary pressures through repetitive hikes in policy interest rates by central bank and the

precautionary approach of financial intermediaries to become risk averse, the application of reference rates for variable rate finances and servicing of already contracted variable rate finances became tricky. The spaces available for policy manoeuvrability by borrowing countries also remained extremely limited. Simultaneously, financial vulnerabilities are elevated for governments, many with mounting debt, and financial markets are increasingly worried about vulnerabilities as inflation could prove more persistent and investors search for quality and low-risk assets amid heightened global economic and policy uncertainty.

Therefore, the following policy options can be considered by governments in servicing already contracted debt or applying following considerations when implementing new reference rate linked debt contracts.

- i. Explore possible swap opportunities to revert to fixed rate debt in place of variable reference benchmarks but *preferably not at the current elevated levels*.

It is advisable that fixed rates are not defined at current elevated reference rates but *negotiate to settle at a level beneficial to both borrower and lender* having reviewed the already serviced duration of the financing facility.

Additionally, option to consider fixing of the applicable reference rate depend on the view of the borrower of the trajectory of the interest rate and expectations. Based on current market expectations, fixing option at elevated levels could be advisable for shorter durations and review more frequently in the near-term, if the borrower's expectation remain further tightening of financial conditions.

- ii. Identify the replacement reference rates in place of LIBOR, if already contracted, to a widely applicable benchmark, such as SOFR, and engage to define application and reference rate terms and conditions on a negotiated weighted scheme. Weights can be defined and favoured mainly considering the initial contracting point of the debt and defined through negotiations.
- iii. Application of an *average or weighted average linked reference index*, from widely used reference benchmarks, and define such reference index based on currency mix of the debt contract or borrowing countries trade or service receipts.

This approach is appropriate for new debt contracts linked to reference benchmarks or issuance of marketable debt securities linked to reference benchmarks.

- iv. Explore the possibility of introducing *caps or floors* to the application of reference benchmarks.

If this facility is not available in already contracted debts, it is an option that can be explored through negotiations but certainly for new debt contracts.

Additionally, such application of floors and caps can be relaxed in conjunction with good economic outcomes and consider reverting to absolute reference benchmark values. Good economic outcomes can be linked to economic growth cycle, balance of payment or fiscal conditions, commodity price booms for exporting countries, and export of goods and services.

- v. Negotiate to introduce *debt service exemptions for interest and/or principal components* or application of minimum applicable benchmark reference rates for servicing interest component at times of business cycle contractions, financial conditions, and climate/ natural calamities. Minimum applicable benchmark reference rates can be considered based on the life of a debt cycle where lowest applicable reference benchmarks can be considered for application.

Introducing exemptions for debt service payments or minimum applicable benchmark reference rates can be based on rule-based agreements between the borrower and the lender/ investor and defined through an independent third-party institution.

- vi. Consider opting for *credit enhancement based financial contracts*, particularly for new financing, to benefit the higher credit worthiness of credit enhancers and minimise the spread adjustment and/ or credit spread.

The nature of reference rate linked finances are back-to-back finance modalities often raised through financial markets. The borrowers can explore opportunities for credit enhancement and thereby reduce the intermediary costs of back-to-back finance modalities.

- vii. Review all existing debt contracts to ascertain terms and conditions to initiate engagement with Multilateral and Regional Financial Institutions, Institutional Lenders, Financial Intermediaries, and investors. This approach is supportive of current initiatives to review Global Financial Architecture.

The above options highlighted can facilitate countries having significant surge in debt service payments to engage to review and reprofile existing debt servicing obligations for longer durations and reduce debt servicing costs in a mutually beneficial arrangement. Similarly, the policy options and lessons from recent surge in variable cost debt servicing can be considered for application in new debt contracts.

Conclusion

In short, just about every variable-benchmark reference rate linked borrowing cost surged in line with US policy interest rates in the last one and half years. The widely used LIBOR is to be abandoned and debt contracts are gradually adjusting or already adjusted to use other reference benchmarks. The surge in debt service cost of low and middle-income countries,

although linked to reference benchmarks, in effect, inextricably bound together to increase in policy interest rates, particularly the US policy interest rate, and the reference benchmarks either behaved in-line with expectations of increasing policy interest rates or responded immediately to upshot, after such policy interest rate decisions. The increasing interest rates yet to dissipate. There is scope for Commonwealth member states reducing exposure to variable reference rates linked debt contracts to fixed rate debt contracts or opting to explore policy alternatives while appropriately transitioning to SOFR and SONIA as reference benchmarks.

The lesson from surge in debt service cost linked to variable reference rate benchmark debt is to consider wide spectrum of policy options to negotiate with lenders and or investors to re-fix the application of reference rate, preferably not at elevated levels. Such a move is expected to benefit both the borrower and the lender/ investor, in the case of already contracted debt obligations. In the case of new debt contracts, the lesson is to consider wide array of policy options presented for new financing contracts including opting to introduce caps and floors, weighted scheme of reference rates, credit-enhancement based finances, and possible pause and/ or introducing application of economic cycle behaviour linked clauses is recommended.

Additionally, the attention to consider already contracted debt, particularly linked to debt contracted at times of pandemic and external vulnerabilities, including the energy price shock and climate disasters, and countries who accessed international capital markets for variable rate finances to renew joint efforts and initiatives to drive policy debates with the aim to reform the Global Financial Architecture and to opt for amicable arrangements to benefit from unprecedented surge in recent reference rate link debt service payments.

.....