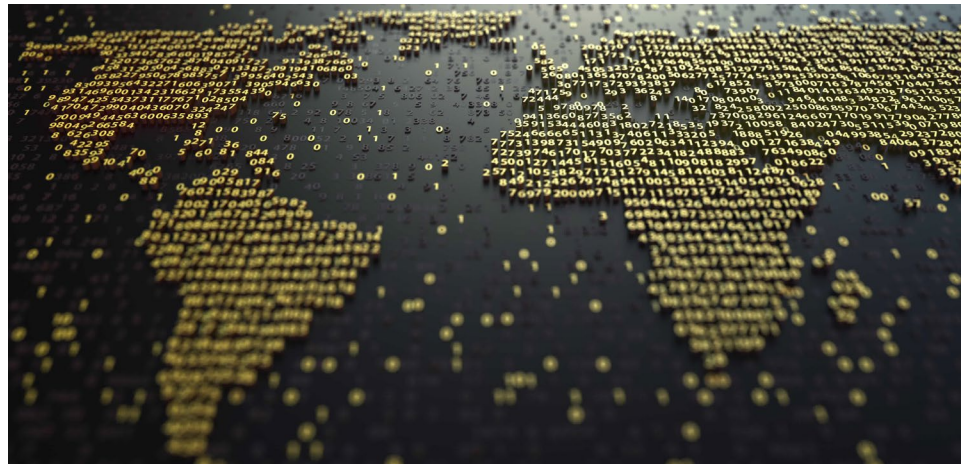


31 July 2020

Libor Benchmark reform

Libor reform

Mapping the path to fallbacks



We are seeing steady progression on the Ibor transition front. Important steps are occurring, including the publication of fallbacks for Ibor rates. The switch to €STR discounting is another, ahead of the SOFR discounting set for October. And other centres on a global scale are doing their thing. A key element now is the gap between Ibors and fallback rates. We examine how things could evolve.

The fact that we can now eyeball official fallback rates on an ongoing basis is a really useful step forward. The idea is when Ibors cease, legacy contracts, for continuity, will then be referenced against the fallback rates. So having the IOSCO compliant rates available helps to crystallise things for holders of legacy product linked to the Ibors.

Fallback rates are currently some 5-10bp above Ibor rates. This is the legacy of elevation in Ibors in the past, in particular in 2015/16. These spreads trend moderately lower through 2021. This is good news, and is in line with our [prior assertion](#) that 2021 will in fact be a good year for Ibor transition as we have relative tranquillity in rates (due to Covid-19 inspired central bank policies to keep rates low and steady).

Our simulations show that the spread between Ibors and their fallback rates trend to between 2bp to 7bp. Should market forces come about to either lower the relevant risk free rate and/or tempt the relevant Ibors higher, then these spreads could narrow further. The narrower the spread between Ibors and their respective fallback rates, the less likely is “discussion” about value transfers. In a perfect world, Ibors on the eve of transition would be flat to the fallback rates; no winners or losers.

There is some talk in the UK of an accelerated pre-cessation announcement by end 2020, to give markets a full year to make final transition. Quite a stretch. But we could add that in a perfect and stable set of circumstances Ibors could theoretically naturally converge on fallback rates – another route to minimising “discussion” on final transition.

We also take a look at latest developments. We suspect that a slow grind continues for the rest of 2020. And then we see 1Q 2021 as a period when a perceptible volume build is probable. We suspect there will be a simultaneous build in volumes in all products.

We also scan the global scene, finding that many centres are choosing to reform their Ibors to make them benchmark compliant. Many have also identified suitable risk free rates. Being ready and flexible is the appropriate descriptor outside of the main three.

Padhraic Garvey, CFA
Regional Head of Research, Americas
ING Financial Markets LLC / ING Capital Markets LLC
New York +1 646 424 7837
padhraic.garvey@ing.com

Antoine Bouvet
Senior Rates Strategist
London +44 20 7767 6279
antoine.bouvet@ing.com

Benjamin Schroeder
Senior Rates Strategist
Amsterdam +31 20 563 8955
benjamin.schroeder@ing.com

View all our research on Bloomberg at
ING<GO>

Mind the gap – Ibors vs fallbacks



Padhraic Garvey
 Regional Head of Research, Americas
 ING Financial Markets LLC/ING Capital Markets LLC
 New York +1 646 424 7837
 padhraic.garvey@ing.com



Benjamin Schroeder
 Senior Rates Strategist
 Amsterdam +31 20 563 8955
 benjamin.schroeder@ing.com

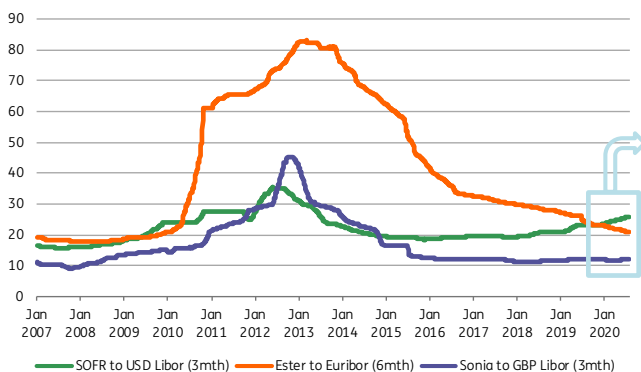
- A key element for legacy contracts as we transition from Ibors is the calculated spread that maps from risk free rates to the fallback rates. The 5yr median of the spread has shown itself to be a robust formulation that reduces the impact of rogue outliers, even when persistent.
- There has been some spread variability in the rear-view mirror, but far more important is what lies ahead. We simulate the future for the calculated spread, the risk free rates in arrears and the fallback rates.
- Our base case is helped by the flatness of the rates profile into 2021, as central banks keep their official rates static. That helps risk free rates to converge on a steady state. We find that the RFR-Ibor gap narrows to 2bp to 7bp on transition.
- Should risk free rates move lower and/or the Ibors higher in the months leading up to the demise of Ibors, then the gaps to fallbacks can be lower. The closer is the gap, the less issues we'd have on transition. Zero would be the ideal gap.
- The risk to this balmy outcome could come from a sustained rise in the Ibors that takes them well above the fallbacks. In an extreme version of this, transition itself could be threatened (not our base view).
- We also note a UK discussion about pre-cessation spreads being set later in 2020. That would present a one-year glide path (during which Ibor rates could theoretically converge on fallbacks). We are monitoring this space carefully.

ISDA's preferred calculation of the spread between chosen risk free rates and the Ibors has gained widespread backing. We discussed the methodology and implications [here](#). Since then, the calculated spreads have been published by Bloomberg. We explore.

The spread adjustment from risk free rates to the Ibors

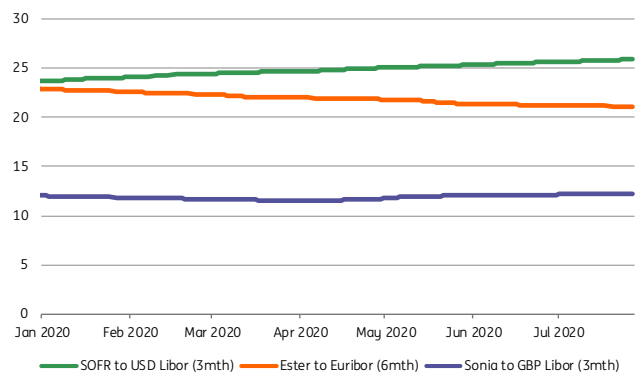
Below are the calculated spread adjustments for the SOFR, €STR & Sonia (Figs 1 & 2)

Fig 1 Spreads from RFRs to Ibors (bp)



Source: Bloomberg, ING estimates

Fig 2 Close-up of the same spread (2020 to date)



Source: Bloomberg, ING estimates

As can be gleaned from the charts, the spreads are off extremes seen in previous years. But at the same time both SOFR and €STR are trending.

These spreads are key, as adding them to the chosen risk free rate generates the appropriate fallback rate. This in turn is the rate that a legacy Ibor contract would use as its reference in place of Ibor for the remaining life-time of the contract – calculated as the relevant risk-free rate plus the fixed spread at the moment of Ibor cessation.

The spreads and fallback rates are summarised in the table below (Figure 3).

Fig 3 Fallback Rate calculations (bp)

		ISDA spread	Fallback Rate	Implied RFR	Ibor Rate	Ibor less Fallback
US	(3mth)	26.0	32.7	6.7	26.1	-6.6
Eurozone	(6mth)	21.1	-31.4	-52.5	-39.9	-8.5
UK	(3mth)	12.3	18.3	6.0	10.7	-7.6

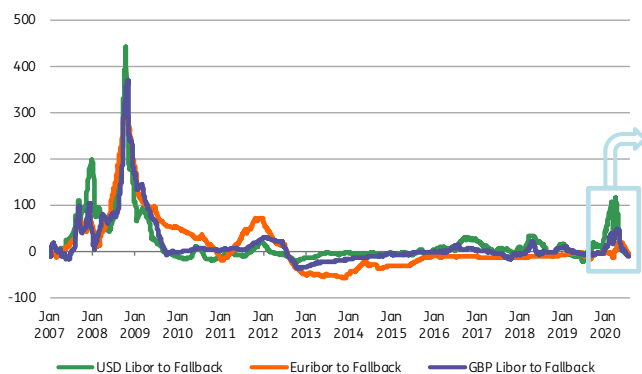
Source: Bloomberg, ISDA, ING estimates

On the very right hand side of the table is the difference between the live Ibor rate today, versus the calculated Fallback rate. Ideally this should be as close to zero as possible, to help minimise “discussions” on the difference in rates pre versus post Ibor cessation.

As it is, if the Ibors were theoretically ceased, say, at the close last night, the Fallback rates today would be between 6-10bp higher than yesterday’s respective Ibor rates.

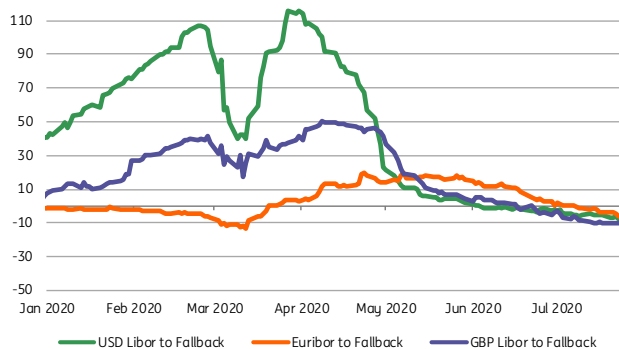
Below is an illustration of the size of that spread historically. As can be seen, the difference has been very high in the past – out to the 400bp area (Figure 4). And even in the recent past, as the Ibors spiked when Covid-19 broke, the difference spiked again – out to the 100bp area (Figure 5).

Fig 4 Spreads from Ibor to Fallback (%)



Source: Bloomberg, ING estimates

Fig 5 Close-up of the same spread (2020 to date)



Source: Bloomberg, ING estimates

We noted in our [April report](#) that Covid-19 could bring a positive combination of circumstances that in fact aids transition. The thinking here is that SOFR a.o. will continue to converge on a steady state, reflecting a flat fed funds futures strip profile. Then if the Ibors also behave and maintain a steady trend, we can ensure that the difference between the actual Ibors and their respective Fallback rates are predictable and as uncontroversial as conceivably possible. Our base case, and therefore most likely scenario, is centred on 2021 being characterised by a flat and unexciting rates profile; exactly what you want for transition.

There is an alternative risk case scenario however where the Ibors start to rise again. This could occur should we increasingly encounter a Covid-19-induced “L” that pushes defaults well into double digits, thus hurting the banks, requiring an added credit element to be contained in live Ibors.

Minding that gap between lbors and fallbacks

As players become more familiar with the ins and outs of fallbacks plus consequences there will be a greater degree of comfort with the whole concept of treatment of legacy product. Our calculations (developed below) show that there will be a difference of between 2bp to 7bp between lbors and fallback rates on conversion later in 2021. Should RFRs come under pressure to ease lower or lbor rates higher (just a tad), gaps of much closer to zero could occur between lbors and fallbacks.

There is also a discussion ongoing around the UK FCA¹ making a pre-cessation announcement as soon as (later in) 2020. This is not improbable. The idea is it would provide clarity and plenty of time (practically a full year) for the market to prepare for final transition. Similarly, The UK FCA announcements can be made on a tenor-by-tenor basis. We are watching these developments very carefully.

Should there be such an acceleration, it could mean 2021 would be a year of adjustment in full knowledge of the end game. Our simulations show that delaying the announcement to 2021 does not achieve a really significant narrowing in RFR-lbor spreads. An acceleration would also likely mean that lbors that are coming toward a demise could in fact naturally converge on fallback rates – another route to minimising the “discussion” on final transition.

End 2021 spread adjustment under different scenarios

Here, we explore these two scenarios where transition happens much later in 2021:

- 1) Where all rates are fixed at current levels until transition at some point by end 2021.
- 2) Where lbors rise by 100bp from now until year end and then stay at that elevated level throughout 2021.

Under scenario 1 (Figure 6), we see that spread adjustments would decrease (from 25.9bp to 23.4bp for the US) as higher spreads of 2016 drop out of the median calculation. But to all intents and purposes there is not significant deviation from today.

For the US, the Fallback rate is 33bp, (based off a spread adjustment of 23.4bp) and 3mth Libor is at 27bp. So there is a 6bp differential.

However, note that this could be wiped out if the SOFR in arrears rate were to outcome at 5bp instead of 10bp, or if Libor was to trend higher by 5bp.

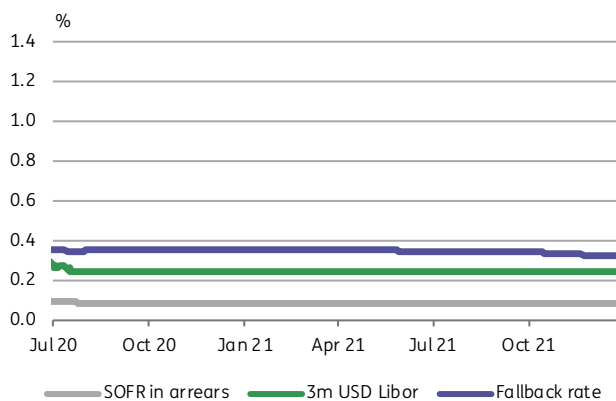
Fig 6 End 2021 IBOR scenarios

		3m USD	3m GBP	6m EUR
Scenario 1	lbor	0.27	0.08	-0.39
(Unchanged interest rate levels going forward)	RFR in arrears*	0.10	0.07	-0.55
	Spread adj (bp)	23.4	7.6	18.1
	Fallback rate	0.33	0.14	-0.37
	lbor vs Fallback (bp)	-6.5	-6.2	-2.0
Scenario 2	lbor	1.27	1.08	0.61
(lbors rise by 100bp until year-end and stay there through '21)	RFR in arrears*	0.10	0.07	-0.55
	Spread adj (bp)	34.6	13.7	20.5
	Fallback rate	0.45	0.20	-0.35
	lbor vs Fallback (bp)	82.4	87.8	95.7

* The RFR in arrears is calculated from 3 months data through March 2022 under the assumption of stable rates
Source: Bloomberg, ING calculations

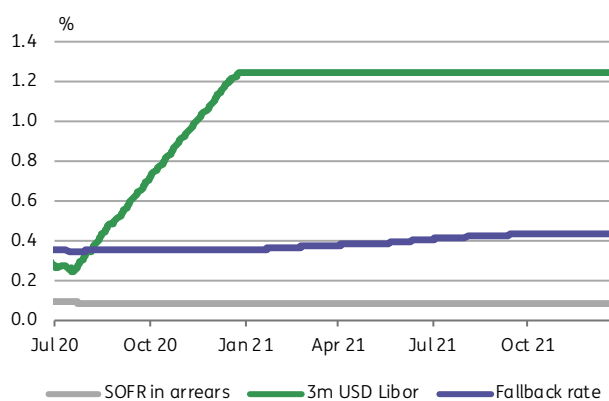
¹ Financial Conduct Authority

Fig 7 Scenario 1 – The path for rates (base view)



Source: Bloomberg, ING estimates

Fig 8 Scenario 2 – The path for rates (risk case)



Source: Bloomberg, ING estimates

Under scenario 2 (Figure 6), we find that the spread adjustment is higher (by over 10bp for 3M USD), and the Fallback rate is also higher by an equivalent magnitude in consequence (as the RFR in arrears is unaffected).

The good news is this is not a dramatic increase. In that sense, we find that the 5yr median spread methodology is relatively robust – big and sustained lbor moves are required to materially affect the spread adjustment.

The issue here however is the deviation between the stressed lbor rates and the more subdued Fallback rates. Transition during a period like this would be quite contentious as it would imply a large cliff for legacy contracts linked to lbors.

Some technicalities to be aware of

Note that the 5yr median spread is calculated through to the pre-cessation date. At that date, the final observation in the calculation uses the compounded daily average of the SOFR rate over the previous 3 mths alongside the Libor rate from the previous 3 mths.

So for example, if the pre-cessation date was 30th Sep 2021, then the 3mth SOFR rate would be the compounded average of overnight SOFR from 1 July to 30 September 2021, while the 3mth Libor rate would be the rate that obtained on 1 July 2021.

In the case where the SOFR vs Libor spread is fixed on 30 September, Libor would continue to print for the following 3mths so that legacy contracts have a suitable reference rate to mark against. Then from 31 December 2021, Libor would cease to exist, and is replaced with the fallback rate, equal to the 3mth SOFR in arrears rate plus the fixed spread.

Identifying Q2 2021 as a key quarter

The ARRC has already identified 2Q 2021 as a quarter during which players in derivatives should be morphing from quoting lbor-linked product to RFR-linked ones. So, your typical interest rate swap discussion and pricing should be against an RFR reference.

To achieve this, we are expecting to see a simultaneous increase in volumes. Not quite a big bang, but certainly a bunched and accelerated transition. This is all about new products, and not legacy product. And rather than IRS players waiting for futures volumes to build, they will in fact build together.

The laggard in this process will be product that requires forward-looking RFR. Some good strides are being taken here, but we likely will not be in a place where this can advance with certainty in 1Q. But that should not stop RFR in arrears from taking off, which is the benchmark in any case.

The home stretch – Progress report



Antoine Bouvet
Senior Rates Strategist
 London +44 20 7767 6279
 antoine.bouvet@ing.com

- Progress towards adoption of RFRs has been slow for derivatives, awaiting clearing houses discounting switch, this is now done for €STR, and will be done for SOFR in October. These are key milestones though, laying some key foundations.
- More RFR-referencing FRNs are being issued, and the loan market has begun its transition. There are numerous signposts along the way that need to be hit in many markets as Ibor references are replaced with new RFR ones.
- There has also been some important progress made on manufacturing term RFRs. The official sector had balked at the idea of forward looking term RFRs for some time, but market pressure has managed to push them on to the timeline ahead.
- Volumes in RFR-referenced derivatives are picking up too. We have a long way to go though. Ibor-referenced product continues to dominate in terms of latest volumes, which will thus make heavy use of fallback rates in the years ahead.

Fig 9 Key developments

	USD	EUR	GBP
New RFR publication	Yes	Yes	Yes
New RFR compounded index consultation	Yes	Reponses by 11-Sep	Yes
New RFR compounded index publication	Yes	-	3 August
Forward-looking term RFR publication	1H 2021	-	Late-2020
RFR discounting and PAI for cleared derivatives	16/10/2020	27/07/2020	Yes
Fallback adjustment spread publication for cleared derivatives	Yes	Yes	Yes
Fallback language for derivatives publication (ISDA)	Aug-20	Aug-20	Aug-20
Fallback language for cash products consultation	Yes	Dec-20/Jan-21	Yes
Deadline to cease new IBOR loans	30/06/2021	-	Q1 2021

Source: ING

Fallbacks: falling over themselves

In recent months, the most important milestones in the IBOR transition have been reached in the domain of fallbacks, as expanded upon in the previous section. ISDA is also [due to publish amendments to its 2006 definitions in August](#), as well as related protocol for dealing with legacy derivative contracts (entered prior to the date of the supplement). They should come into force towards the end of 2020.

But there has been progress achieved in other products too. In the US, the ARRC has conducted a range of consultations with cash market participants and has published fallback languages, for instance for [syndicated loans](#), or for [private student loans](#). In essence the [ARRC favours a fallback spread adjustment methodology that matches the ISDA's](#). This is good news as the more consistent the approach across products, the easier it will be for market participants to manage their exposure.

Note this was also the [recommendation from the sterling Working Group](#) (WG) issued back in March, and that the equivalent consultation from the euro WG is still ongoing, with [final recommendation expected in early 2021](#).

RFR index and term RFR: in the pipe

The topic of the publication of backward-looking RFR compounded indices, and forward-looking RFR-based term rates is ongoing.

The Bank of England (BOE) will soon start the publication of the [SONIA compounded index](#) on 3 August, and has already made an illustrative series available. This adds to the [New York Fed's SOFR index](#) published since March. The NY Fed also publishes 30, 90, and 180-day averages. The publication of RFR-based indices increases market transparency for parties to contracts referencing RFRs, [for instance for FRNs](#).

The ECB is not yet publishing a backward-looking compounded €STR rate but has launched a [public consultation on the subject](#). Maturities could range from 1 week to 1 year, and the ECB is also considering publishing an index to compute compounded rates for non-standard periods.

The path to forward-looking term-RFR rates is less straightforward, as it does not rely on past RFR fixings as backward-looking compounded indices do, but on their future path as implied by derivatives financial instruments.

In the US, the Fed is already publishing [indicative forward-looking SOFR series](#) although it should be said that these fall short of the IOSCO requirements. They are nevertheless a useful guide for what a term SOFR would look like. [In its 2020 objectives](#), the ARRC said it hopes for a forward-looking term SOFR to be published in H1 2021, although this is contingent on sufficient liquidity in SOFR derivatives markets.

In the UK, administrators have started producing [a beta Term Sonia](#) version based on Sonia derivative transactions. In its [updated 2020-21 roadmap](#), the sterling WG put the provisional publication date for a Term Sonia in late 2020.

Tough legacy: regulatory power and legislation

The issue of tough legacy contracts (contracts that cannot transition away from Libor) is also high on the agenda. The most significant development of late has been the UK government had proposed legislation to grant [additional regulator powers to the FCA](#) to manage the end of Libor in a way that protects customers and ensures market integrity. These include potentially requiring benchmark administrators to change their methodology. At the same time, the FCA emphasizes the continued importance of active transition. This remains the only way for parties to have certainty about contractual continuity and control over their contractual terms when LIBOR ceases or is no longer representative

Earlier this year, the relevant task force within the sterling WG has identified a case for action and [called for legislative steps to be taken](#) where feasible. The BOE, FCA and UK treasury are due to hold a roundtable on the topic in early August.

Progress report: big bang incoming

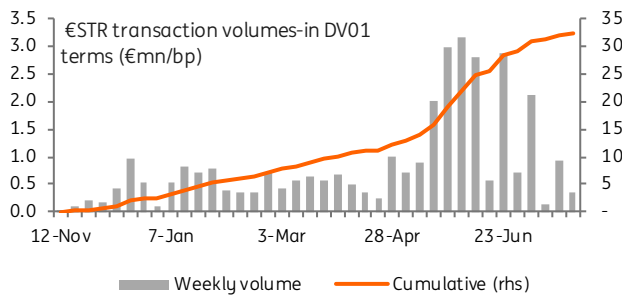
At first, the volume of RFR-linked products can seem underwhelming. Across USD, EUR, GBP, JPY, AUD, and CHF, [the ISDA-Clarus adoption indicator](#) reports that RFR-linked products accounted for only 4.7% of interest rates derivatives volumes in June in DV01 terms. This was a step down from 5.4% the previous month.

In reality, this hides significant discrepancies between currencies. USD and EUR swaps, the two largest markets had not yet transitioned to RFR discounting and PAI at the time of the report, which explains the low overall figures.

The switch to €STR discounting and PAI took place on 27 July so we expect data will show a clear-pick-up in €STR transactions in the coming months. So far, volumes have been fairly low (Figure 10) but note that €STR-linked derivatives only exist since late

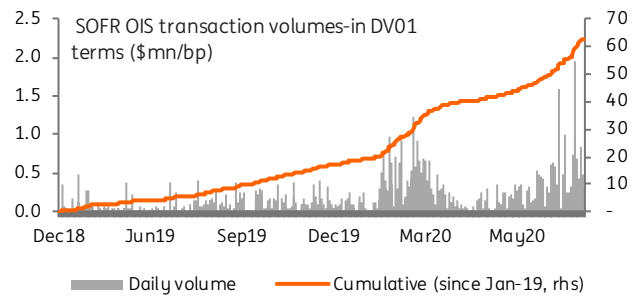
2019. It should also be noted that, as reformed Euribor will stay on for at least 5 more years, €STR-linked derivatives will account for only part of derivatives volumes.

Fig 10 €STR OIS volumes: looking for the switch



Source: Bloomberg, ING

Fig 11 SOFR OIS volumes: taking off

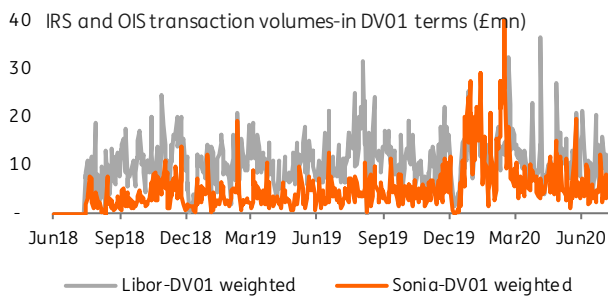


Source: Bloomberg, ING

In the USD market, where SOFR-linked derivatives have existed since 2018, volumes are more significant, but remain small in comparison to the Libor market share. There has been a noticeable pick-up in SOFR OIS swap volumes in early 2020. After Covid-19 threw a spanner in the works, volumes have since recovered, reaching a record level in July (Figure 11). This is all the more encouraging that the discounting/PAI switch is only planned for 16 October.

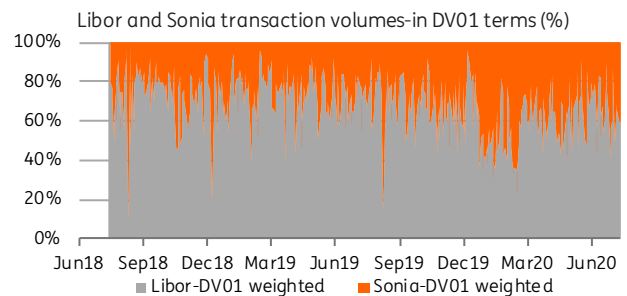
The GBP market shows that the room for increase in USD RFR-linked product is significant. In GBP, where SONIA is already standard, RFR-linked products accounted for 24.4% of DV01-weighted derivatives volumes according to the ISDA-Clarus report. Focusing only on swaps, we estimate that Sonia OIS accounted for 36% of the risk-weighted volumes in July, compared to 30% in June (see Figures 12 and 13).

Fig 12 Sonia OIS and Libor IRS volumes (in DV01 terms)



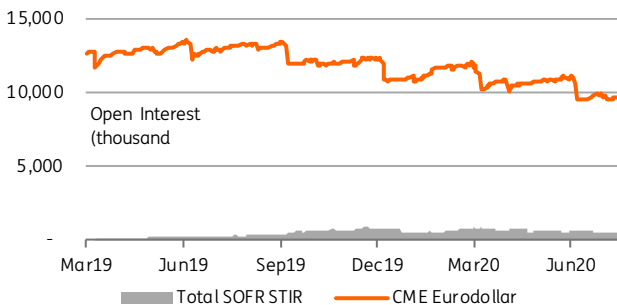
Source: Bloomberg, ING

Fig 13 Greater Sonia market share in July



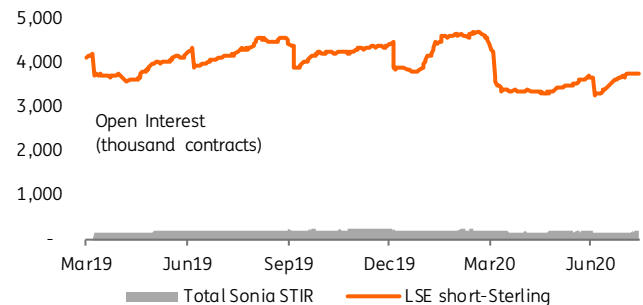
Source: Bloomberg, ING

Fig 14 SOFR futures volume still a fraction of Libor



Source: Bloomberg, Exchanges, ING

Fig 15 And the same goes for Sonia futures

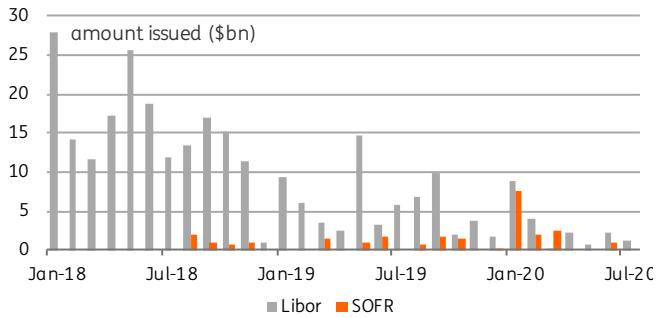


Source: Bloomberg, Exchanges, ING

Another reason why volumes in RFR-linked derivatives lag behind their Libor peers is the futures market. In USD, and GBP, volumes of Sonia and SOFR futures have risen but remain well below the Libor futures they will eventually replace (Figures 14 and 15).

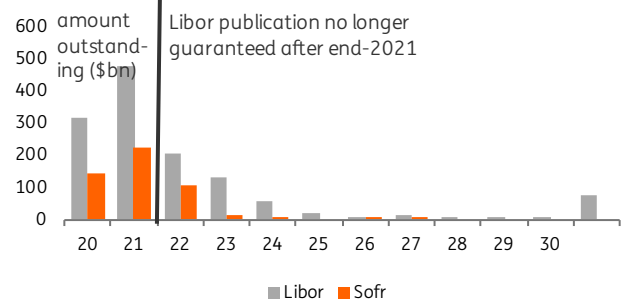
The following charts (Figures 16, 17, 18, 19, 20 and 21) show issuance of RFR and Libor-linked FRNs in USD, EUR, and GBP. In spite of a significant amount of Libor-referencing FRNs maturing after 2021, we note the sharp pick-up in SONIA and SOFR-linked debt sales. What's more, it is likely that some of the outstanding Libor bonds that mature in 2022 and later do include appropriate fallbacks.

Fig 16 SOFR FRNs issuance has picked up



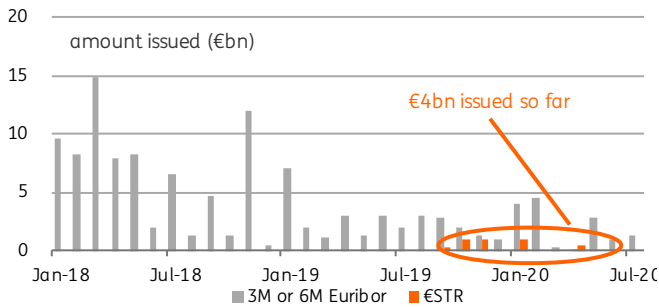
Source: Bloomberg, Bond Radar, ING

Fig 17 ...and legacy bonds are on the decline



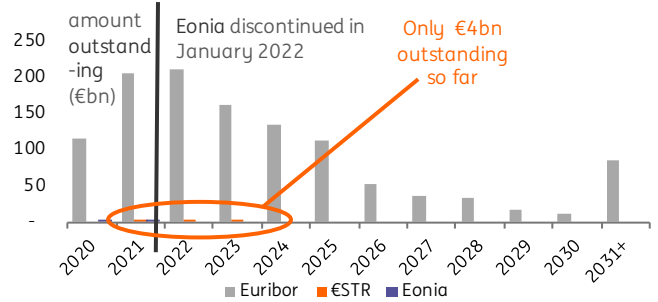
Source: Bloomberg, ING

Fig 18 €STR FRN issuance is slow to pick-up



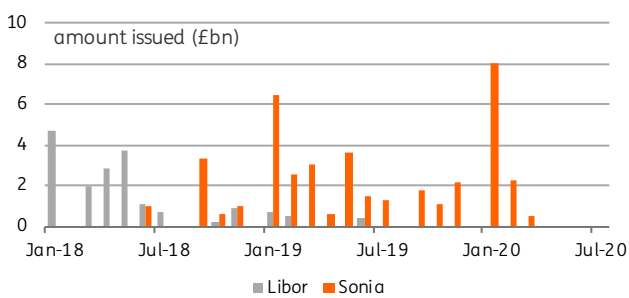
Source: Bloomberg, Bond Radar, ING

Fig 19 ...but no Eonia FRN maturing after 2021



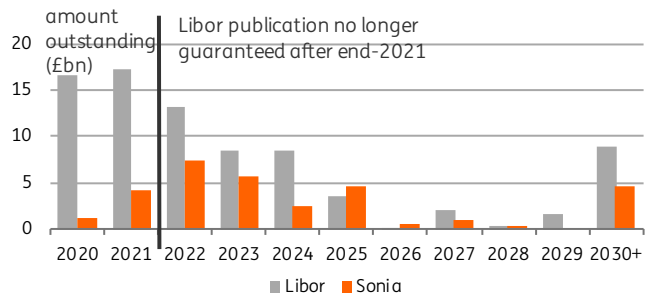
Source: Bloomberg, ING

Fig 20 Sonia FRNs issuance now standard



Source: Bloomberg, Bond Radar, ING

Fig 21 ...even for long maturities



Source: Bloomberg, ING

As often, data on the loan market is harder to get but the LMA has put together [a list of RFR-referencing loan transactions](#): Libor-based loans with a switch to an RFR, new loan referencing an RFR directly, and legacy Libor loans amended to reference RFRs.

In the next section we broaden the discussion to a more global context.



Global naval gazing – How other centres are coping

- While the US, UK and Eurozone in particular have been on a clear mission to reform their benchmarks, many other centres have taken a more “watch and see” approach.
- Japan and Switzerland are exceptions, where progress has been made in tandem with the aforementioned three. There are differences though, Japan has an RFR and a reformed Ibor, while Switzerland replaces the Ibor with the RFR.
- A survey of other centres shows that the majority have identified a suitable benchmark compliant RFR, some secured and some unsecured. Those that have not made a final choice are close to doing so.
- Many are also reforming their Ibor rate so that it is benchmark compliant. In that way they can maintain their Ibor rate, and thus sustain contracts that reference the Ibors, adopting a multi-rate approach. But at the same time have the flexibility to switch to RFR referencing when or if appropriate over time.
- Here we complete a brief survey of players. It is not comprehensive but does provide a snapshot of what some key players are up to on a global scale, spanning developed and emerging markets.



Padhraic Garvey

Regional Head of Research, Americas
ING Financial Markets LLC/ING Capital Markets LLC
New York +1 646 424 7837
padhraic.garvey@ing.com



Benjamin Schroeder

Senior Rates Strategist
Amsterdam +31 20 563 8955
benjamin.schroeder@ing.com



Antoine Bouvet

Senior Rates Strategist
London +44 20 7767 6279
antoine.bouvet@ing.com

The key players in the Libor transition saga have been the US, UK and Eurozone. The other two in the headlines have been Japan and Switzerland. Here we look at these “other” players, and also survey what other centres beyond them are up to. We find in most centres that risk free rates have been (or are close to being) identified, but in a simultaneous fashion we find that that reformed Ibors also feature heavily.

Switzerland

Switzerland will transition from CHF Libor to secured SARON² for all financial products, and the Central Bank too switches to targeting SARON as opposed to Libor. The concentration is on derivation of products linked to SARON compounded in arrears. In that respect Switzerland is adopting the classic hard-line approach that the official sector preferred, ie, a concentration on the RFR in arrears, not termed or in advance.

Japan

Japan, in contrast, will employ a multiple rate approach, with uncollateralised TONA³ in operation alongside reformed TIBOR. The nuance here is a preference for forward looking TONA rates based off derivative transactions based on JPY OIS, with mid-2021 as a target timeline to get this done by. The preference here is for formation of TONA term rates, co-existing with term rates already in existence for TIBOR.

² Swiss Average Rate Overnight

³ Tokyo Overnight Average

Canada

Canada's CORRA⁴ is derived along similar lines to SOFR, comprised of a body of eligible overnight repo transactions. A multi-rate approach will be maintained, with both CDOR⁵ and CORRA available as benchmark rates, but the longer term ambition is for CORRA to dominate over time. A term risk free sub group is looking into the need or otherwise for a term risk free benchmark.

Australia

The Australian risk free rate is the AONIA⁶, or the overnight cash rate. Alongside that sits the BBSW⁷, which is related to Libor as it contains bank risk, but comes from an active bills market. In that respect there is a multi-rate approach in play. Migration away from the BBSW may occur, partly depending on international forces. Latest discussions centre on the likelihood of developing term rates for AONIA, as is currently the case for BBSW.

Brazil

The Selic rate acts as the risk free rate, an overnight secured rate based off government bond repo. Alongside that sits the DI rate, from unsecured overnight interbank transactions, which can fallback to the Selic if there is insufficient volume. Libor-linked instruments amount to a small part of the derivatives market (some 10% of swaps, and they generally have fallback rules), and virtually no part in the loans market.

Mexico

The chosen risk free rate in Mexico is the Overnight TIIE⁸, based off government and semi government repo transactions. A multiple-rate approach will be maintained, with TIIE for the 1mth, 3mth and 6mth tenors co-existing. In that respect there are no immediate plans to develop new term RFRs at this juncture, but this remains an open discussion point. An OIS market with the Overnight TIIE is the most probable starting point.

Hong Kong

A multiple-rate approach is the way forward in Hong Kong, with HONIA⁹ as the RFR sitting alongside HIBOR, with HONIA as the overnight interbank funding rate. Both rates are under regular review, with the objective of IOSCO compliancy. At the same time an OIS market for HONIA based transactions is in development, in line with developments in other centres that will add liquidity to the RFR-referenced market.

Singapore

SGD derivatives have traditionally referenced SOR¹⁰, which uses USD Libor as an input, and hence is susceptible to the demise of Libor. The SORA¹¹ has been identified as the alternative benchmark. At the same time, the lesser used SIBOR has been reformed, so that it too can be used as a reference. Players have a choice in transitioning from SOR, note however that a consultation on SIBOR proposed discontinuing it using a pace transition. In that sense, a multiple rate scenario is the outcome that may prove temporary.

Indonesia

In Indonesia, IndONIA has replaced JIBOR as the overnight benchmark rate, and JIBOR is no longer published by Bank Indonesia. Volumes are now being built in OIS-type structures, referencing IndONIA.

⁴ Canadian Overnight Repo Rate Average

⁵ Canadian Dollar Offered Rate

⁶ Australian Interbank Overnight Cash Rate

⁷ Bank Bill Swap Rate

⁸ Interbank Equilibrium Interest Rate

⁹ Hong Kong Dollar Overnight Index Average

¹⁰ SGD Offer Rate

¹¹ Singapore Overnight Rate Average

South Africa

ZARibor is a rate based off overnight interbank funding and looks to be the chosen RFR. In parallel an option to replace Jibor with a transactions-based rate comprised only of non-bank corporate deposits is being considered. That said, the underlying preference is to not go with multiple rates, but to embrace development of ZARibor.

Turkey

TLREF¹² is the short-term reference rate at which financial institutions engage in collateralized borrowing and lending through overnight repo in government bonds. Futures, bonds and loans have been built referencing TLREF. TRILIBOR is expected to be a thing of the past in consequence, as Turkey embraces a single reference rate approach.

Central Europe

In [Poland](#), WIBOR has been reformed, employing a waterfall methodology. In [Romania](#), rules were amended to make ROBOR benchmark compliant. In Czech, PRIBOR has similarly been reformed. And Hungary too is following a similar approach through reformed BIBOR. This is all quite similar to the approach being taken on EURIBOR. In [Croatia](#), however, ZIBOR is discontinued, and there is a move to the National Reference Rate. And [Bulgaria](#) moved to LEONIA plus, the Lev overnight index average.

Middle East

The [UAE](#) has the Eibor (no RFR). [Bahrain](#) has BHIBOR (no RFR). Oman has OMIBOR (no RFR). Qatar has QIBOR (no RFR). [Saudi Arabia](#) has SAIBOR (no RFR). [Israel](#) has TELBOR, which is an overnight rate.

¹² Turkish Lire reference rate

Disclaimer

This publication has been prepared by the Economic and Financial Analysis Division of ING Bank N.V. (“**ING**”) solely for information purposes without regard to any particular user's investment objectives, financial situation, or means. ING forms part of ING Group (being for this purpose ING Group N.V. and its subsidiary and affiliated companies). The information in the publication is not an investment recommendation and it is not investment, legal or tax advice or an offer or solicitation to purchase or sell any financial instrument. Reasonable care has been taken to ensure that this publication is not untrue or misleading when published, but ING does not represent that it is accurate or complete. ING does not accept any liability for any direct, indirect or consequential loss arising from any use of this publication. Unless otherwise stated, any views, forecasts, or estimates are solely those of the author(s), as of the date of the publication and are subject to change without notice.

The distribution of this publication may be restricted by law or regulation in different jurisdictions and persons into whose possession this publication comes should inform themselves about, and observe, such restrictions.

Copyright and database rights protection exists in this report and it may not be reproduced, distributed or published by any person for any purpose without the prior express consent of ING. All rights are reserved. ING Bank N.V. is authorised by the Dutch Central Bank and supervised by the European Central Bank (ECB), the Dutch Central Bank (DNB) and the Dutch Authority for the Financial Markets (AFM). ING Bank N.V. is incorporated in the Netherlands (Trade Register no. 33031431 Amsterdam). In the United Kingdom this information is approved and/or communicated by ING Bank N.V., London Branch. ING Bank N.V., London Branch is subject to limited regulation by the Financial Conduct Authority (FCA). ING Bank N.V., London branch is registered in England (Registration number BR000341) at 8-10 Moorgate, London EC2 6DA. For US Investors: Any person wishing to discuss this report or effect transactions in any security discussed herein should contact ING Financial Markets LLC, which is a member of the NYSE, FINRA and SIPC and part of ING, and which has accepted responsibility for the distribution of this report in the United States under applicable requirements.

Additional information is available on request. For more information about ING Group, please visit <https://www.ing.com>.