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## With A LIBOR Phase-Out Likely After 2021, How Will Structured Finance Ratings Be Affected?

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# With A LIBOR Phase-Out Likely After 2021, How Will Structured Finance Ratings Be Affected?

Regulators and market participants alike have signaled their intent to phase out LIBOR and similar IBOR benchmarks after 2021. Though the path of transition is uncertain, a key question is: how would the potential change affect the many structured finance transactions tied to it?

An initial look across structured finance transaction documents suggests that any transition to a series of replacement reference rates will be a steep challenge. The ultimate impact will depend on a number of factors, including whether current IBORs will be maintained for existing transactions until final maturity, whether existing transactions need to shift benchmarks, which could create disputes over which index should replace it, and whether there are enough mitigating factors to address a potential basis mismatch between assets and liabilities, which may arise if and when replacement benchmarks are chosen. However, based on regulators' intent to maintain current benchmarks, we do not currently expect any rating impact on existing transactions.

## Overview

- S&P Global Ratings tracks \$2.3 trillion of original balance structured finance bonds that have IBOR exposure. These bonds also have significant underlying loan and derivative exposures that also reference IBOR.
- Our initial review of current structured finance contractual IBOR language in transaction documents found a progression of fallback reference options, with the last resort usually to refer to the previous month's rate. None of this fallback language would be easily implemented, as there would likely be basis risk between existing references and a potential replacement, while borrowers, bondholders, and issuers would likely have different interests.
- Some products have no existing language for an IBOR alternative. Having rate transitions subject to majority of bond class approval or having no language at all creates the potential for dispute risk because structured finance bonds usually have multiclass bond structures, so it could be difficult to achieve a consensus in selecting a new benchmark.
- Our criteria have certain minimum standards for instruments linked to a variable index, which any proposed or new benchmark would have to meet.
- Because structured finance regulators have been supportive of transitioning to new rates (only if a viable alternative can be created), we currently do not expect bond cash flow disruptions or rating implications. We will also continue to inventory and monitor various transaction documents to consider any potential rating implications.

On July 27, the U.K. Financial Conduct Authority (FCA) announced a proposal to phase out LIBOR in favor of alternative rate references by 2021. The announcement has been followed by further regulatory support, including from the U.S. Commodity Futures Trading Commission and the Federal Reserve, and on Sept. 21 the European Central Bank said it would create an overnight interest rate before 2020 to complement existing benchmarks. But any transition will create a significant challenge, as the market's exposure to floating base rates like LIBOR, TIBOR, HIBOR, and EURIBOR is significant. The Treasury department's industry-supported market practices group has identified more than \$160 trillion of LIBOR-related financial products, suggesting any transition to a new reference rate

would have to be carefully choreographed and pretested in order not to disturb financial markets.

To consider the challenges of moving the structured finance market, much of which uses IBOR benchmarks, to new reference benchmarks, we began reviewing IBOR exposures among a few rated structured finance bonds and underlying loan assets from each product to find samples of transactions with replacement flexibility in their current IBOR language, as well as any proposed language in recently issued transactions that have now started recognizing the greater potential for an IBOR replacement. Given the large amount of underlying documentation typically present in a transaction, our initial review only sampled a very small amount of the underlying transaction documents, but it still gives us a general picture of typical and proposed language.

The initial \$2.3 trillion of original structured finance IBOR bond exposure demonstrates how various IBOR references have expanded significantly from being a bank-to-bank lending rate benchmark to a common bond reference benchmark (see table 1). In many structured finance products, there are additional IBOR-related floating-rate references in the underlying loans, so the original balance exposure of both assets and liabilities is likely over \$4 trillion. In addition, the Derivatives column shows that many times there are also interest rate or foreign currency swap agreements that can have a floating-rate payment requirement that references an IBOR. In fact, derivative market exposure to IBOR is actually many times larger than the cash bond market--and is why the International Swaps and Derivatives Assn. (ISDA) is highly involved in helping plan any potential transition to any new benchmarks. Overall, the exercise of itemizing structured finance IBOR exposure suggests that structured finance participants do have a role to play in the transition to new market-based risk-free benchmark.

Table 1

Structured Finance Exposure By Product And Region							
	Original rated market (bil. \$)	Original IBOR-related (bil. \$)	Asset basis	Asset term	Bond IBOR reference	Bond term	Derivatives
<b>U.S.</b>							
Credit card	132.9	49.7	Prime	Revolving	99.8% 1M/0.2% 3M	~2-30 years	Currency swap for yankee bonds that create LIBOR leg
Auto loan	143.6	10.3	Fixed	Amortizing	100% 1M	~2-5 years	N/A-unhedged
Auto lease	17.2	1.9	Fixed	Amortizing	100% 1M	~2-5 years	N/A-unhedged
Equipment	16.2	0.6	Fixed	Amortizing ~2 years WAL	100% 1M	~2-4 years	Some
Student loans	226.3	187.2	Fixed and floating (prime, 1ML, 3ML, 91-day T-bill)	~5-30 years	27.9% 1M/71.8% 3M/1.27 6M	1-54 years	Transaction-specific/dependent
RMBS	\$2,019.6 current balance is roughly 25% of the original.	1,088.8	More than 50% of issuance had LIBOR exposure based on original balance.	Predominately 30-year amortization with ranges from 15-40 years	99% 1M/0.6 6M/0.2% 12M	5-30 years with legal final maturity typically 30 years	Based on 1ML. Derivatives don't exist in RMBS 2.0. legacy used them quite a bit (especially in subprime) but most contracts expired 5-7 years after inception. Therefore not many are outstanding

**Table 1**

**Structured Finance Exposure By Product And Region (cont.)**

	<b>Original rated market (bil. \$)</b>	<b>Original IBOR-related (bil. \$)</b>	<b>Asset basis</b>	<b>Asset term</b>	<b>Bond IBOR reference</b>	<b>Bond term</b>	<b>Derivatives</b>
CMBS	197.4	34.6	Mostly fixed-rate loans. The floating-rate loans are 98% 1M/0.45% 3M with a small percentage of longer LIBOR references.	~3-5 years	98% 1M/0.45% other	~3-5 years	LIBOR cap on floating-rate CMBS loans
CLO	215.6	211.8	Mostly floating-rate loans with 0.4% 1M/99.6% 3M	3-5 years	0.4% 1M/99.6% 3M	5-10 years But recent transactions have a refinance.	
Nontraditional	141.6	19.0	78% 1M/19% 3M				
Other ABS	54.1	5.0			53% 1M/46% 3M/1% 6M		
Repacked and referenced securities	17.0	2.0	3ML	~15 mos.	3ML	~15 mos.	Call option/swaps/caps
Other SC	41.6	24.7			65% 1M, 29 3M, 6% 6M		
<b>EMEA</b>							
Credit card	18.7	17.7	Consumer loan universe is mostly fixed-rate	Revolving	100% 1M	~4-7 years	FX swaps if assets and liabilities are in different currencies
Auto lease	24.3	22.9		~3-5 years	93% 1M/7% 3M	~3-5 years	Typically IR swaps (or FX swaps if assets and liabilities differ in currency)
Auto loan	46.4	32.1		~5 years	99.6% 1M/0.44% 3M	~3-5 years	Typically IR swaps (or FX swaps if assets and liabilities differ in currency)
RMBS	589.8	512.8	RMBS loans are mostly fixed-rate longer term obligations. But there are some floating-rate references.	Up to 30 years	2.5% 1M/93% 3M/4.3% 6M	~30-35 years	1. Fixed floating swap with LIBOR leg to SPV 2. Basis swap 3. Currency swap with LIBOR leg

**Table 1**

**Structured Finance Exposure By Product And Region (cont.)**

	<b>Original rated market (bil. \$)</b>	<b>Original IBOR-related (bil. \$)</b>	<b>Asset basis</b>	<b>Asset term</b>	<b>Bond IBOR reference</b>	<b>Bond term</b>	<b>Derivatives</b>
CMBS	47.28	20.18	CMBS loans are usually floating-rate loans referencing 3ML or Euribor.	~3-5 years	86.7% 3M/13% 6M	~3-5 years	Typically LIBOR cap
Corporate securitization	77.05	17.54			44.9% 3M/51% 6M	Up to 35 years	Typically IR swaps (or FX swaps if assets and liabilities differ in currency)
Other ABS	28.19	13.01		Various	55% 1M/30% 3M/15% 6M	~3-10 years	
Other SC	35.75	22.58			5% 1M/59% 3M/16% 3M		In CLO typically no derivatives; in other selected SC cases IR or FX swaps
<b>APAC</b>							
Auto	7.80	0.10	100% 1M	~2-4 years	100% 1M	~2-4 years	None for most cases. FX swaps if assets and liabilities are in different currencies
Credit card	0.89	0.00	Fixed	Revolving	NA	~3-5 years	None
RMBS	450.77	43.30	Fixed or floating (6ML, short-term prime rate, long-term prime late)	~30-35 years	61% 1M/37% 3M with some BBSW and BKBM reference.	~30-35 years	None
CMBS	0.42	0.03	Loans are usually floating 3ML	~3-5 years	98% 3M	~3-5 years	LIBOR cap
Other ABS	5.35	0.26	Fixed or floating	~3-5 years	100% 3M	~3-5 years	
Other SC	1.92	0.00	No exposure all fixed	~3-10 years		~10-12	None
<b>Latin America</b>							
ABS other (financial future flows or DPRs)	23.33	0.64	Very small exposure	Various	2.9% 1M/77% 3M	~3-5 years	None
RMBS (only 1 deal in Mexico)	2.27	0.07	Very small exposure	Original: 21Y Remaining: 11	99.8% 1M	Original: 28Y Remaining: 18	None
<b>Total</b>	<b>2,563.78</b>	<b>2,338.78</b>					

Note: Blank fields usually represent small exposures that will be investigated as the new IBOR benchmarks approach implementation. 3ML--Three-month LIBOR. RMBS--Residential mortgage-backed securities. ABS--Asset-backed securities. CMBS--Commercial mortgage-backed securities. CLO--Collateralized loan obligation. DPR--Diversified payment rights. SC--Structured credit. FX--Foreign exchange. IR--Interest rate. SPV--Special-purpose vehicle. N/A--Not applicable. WAL--Weighted average life.

While global regulators don't plan to force a transition from existing benchmarks, they are concerned that IBOR references could deteriorate post-2021 when the Financial Services Authority (FSA) intends to stop requiring mandatory benchmark submissions by banks. The Alternative Reference Rates Committee (ARRC) and European Central Bank would possibly permit IBORs as ongoing references until any specific reference contract expires or matures. However, because the FSA would not compel IBOR submission post-2021, it could cause issues for longer-term loans and bonds (usually mortgages or those part of collateralized loan obligations) still using an IBOR.

The initial review done by various analytical groups across the practice shows that there is usually a fallback waterfall that first references an electronic screen quote for IBOR for the relevant payment date, and if that is unavailable, then an average bank-level IBOR quote (e.g. in London), and then if that is also unavailable, an alternative average bank quote (like New York). If a bank-level IBOR quote cannot be obtained, then some documents mention using the previous period's rate or another overnight deposit rate with or without a margin spread—but this creates a risk that the rate could be perpetually locked in for what is supposed to be floating-rate benchmark.

The documentation for some existing products never envisioned an IBOR reference would not be available, and therefore have no provisions for an alternative should it disappear. These transactions usually involve shorter-duration IBOR-based bonds that should pay off before IBOR is phased out. If doesn't happen, then the transaction's cash flows will depend on regulatory guidance that, to date, suggests existing contracts would not have to transition to new benchmarks. In cases where the referenced backstops can be changed, the wording usually requires a majority of lenders, borrowers, or a bondholder class for consent, which creates dispute risks. So while most documents try to allow for an IBOR reference replacement, an actual transition would create room for disputes and market disruption. Given that structured finance bonds usually have multiclass bond structures, there is significant potential for disputes because it could be difficult to achieve a consensus in selecting a new benchmark. This is only an initial summary, not a comprehensive review, so there may also be other language we have not seen that may only come to light in a dispute or as we undertake a more detailed document review.

**Table 2**

<b>Initial Review of Structured Finance Transaction Language</b>		
<b>Existing legacy language</b>	<b>Recent language</b>	<b>Exposure comment</b>
<b>U.S. structured finance products</b>		
ABS	ABS language generally refers to screen referenced LIBOR rates. If those are not available calculation agent is supposed to get and use the mean of LIBOR quotes from London banks. NY banks provide backstop to London banks. If banks are no longer quoting LIBOR, the various ABS products fall back to the reference used in the previous payment period or a 30-day deposit rate usually with a condition the reference rate cannot be negative (not all deals have this fallback).	Discontinuation of LIBOR now disclosed as risk. While sometimes listed as risk, some language allows for the use of previous rate or a deposit rate. None of this language would be easily implemented by the calculation agent and would likely be challenged by a borrower and or bondholder group. Transition would be very difficult for many of these transactions and could create asset liability mismatches in loans products that have lower margins.

Table 2

Initial Review of Structured Finance Transaction Language (cont.)			
	Existing legacy language	Recent language	Exposure comment
RMBS	For the assets/loans, legacy verbiage indicates that the servicer/master servicer would select a new index based on comparable information. For bonds (liabilities), the legacy transactions have verbiage that can backstop to a U.S. dollar lending rate to NYC banks, and to the extent that is not doable then the used LIBOR rate is equal to the preceding determined LIBOR rate.	Newer transactions allow for potential loan removal of LIBOR in disclosure sections. Mortgage note language indicates the owner of the note could determine an index. Could allow the trustee to set the rate, but not clear. Credit risk transfers use LIBOR for bonds, and one has LIBOR-related verbiage that says the issuer would designate an alternative index that has performed in a manner substantially similar.	Similar legacy bond language that could use the previously determined LIBOR, and then the index effectively becomes fixed. For newer transactions, there may be more of a move to a comparable index as a replacement. Transition would be difficult for these loans and bonds.
CMBS	If LIBOR is unavailable the loan reference falls back to prime rate, failing that a WSJ prime rate reference. The pass-through rates for the principal certificates can be set by the calculation agent to prime plus a spread as long as the rate is less than the net WAC rate of the mortgage pool, to the extent they reasonably determine LIBOR is no longer available.	No different language.	The adjustment to prime plus a prime rate spread could be disruptive in terms of bondholders yield expectations, but the mechanics for implementation appear to be in place.
CLO		Base rate can change from LIBOR with majority consent of controlling class and the subordinate classes. Failing majority consent the collateral manager can use the designated base rate as set by loan syndication & trading Association or the Fed's Alternative Reference Rates Committee.	Loans require LIBOR replacement. Legacy CLO bonds require LIBOR and/or a resulting replacement amendment. Again different class interests would make this difficult. Recent issuance have ability refinance, so LIBOR likely an issue during their life.
Repacked and referenced securities	Same London, NYC quote system that falls back to previous month reference.	Nothing recent with different language.	Loss of LIBOR could leave bonds referencing previous month.
EMEA structured finance products			
ABS	Screens referencing EURIBOR/LIBOR rates are the starting point. If those are not available calculation agent is supposed to obtain and use the mean of quotes from London banks. If no quotes can be collected then the LIBOR rate used in the previous payment period is taken.	Discontinuation of LIBOR now disclosed as risk. We have also seen discussions to allow full flexibility for the issuer to select any replacment benchmark in their reasonable judgment. Countering that, we've also seen language that if 10% of a noteholders object then a change would needs extraordinary resolution.	Mixed language usually with a fall back to the previous quoted rate. Could leave the quoted rates locked for remainder of bond term. Definitely room for disputes.
RMBS	Generally refers to screen rate. If unavailable ask reference banks to provide a rate a take the average. If unable to determine a rate from the reference banks, agent will go to other banks. Fallback is to previous quarters rate.	No specific changes so far but we have seen this issue mentioned as a specific risk factor that if no rate can be determined there may be a mismatch between the assets and liabilities.	Mixed language usually with a fall back to the previous quoted rate. Could leave the quoted rates locked for remainder of bond term.
CMBS	Generally refers to screen rate. If unavailable ask reference banks to provide a rate a take the average. If unable to determine a rate from the reference banks, agent will go to other banks. Fallback is to previous quarters rate.	Market disruption issue mentioned as a specific risk factor. In absence of reference bank rate, transaction parties may agree a substitute basis for determining the rate of interest.	Mixed language usually with a fall back to the previous quoted rate. Interest deduction from recoveries is based on CIR rates UP (already stressed).

**Table 2**

**Initial Review of Structured Finance Transaction Language (cont.)**

	<b>Existing legacy language</b>	<b>Recent language</b>	<b>Exposure comment</b>
Corporate securitization	Generally refers to screen rate. If unavailable ask reference banks to provide a rate a take the average. If unable to determine a rate from the reference banks, agent will go to other banks. Fall back is to previous quarters rate.		Mixed language usually with a fall back to the previous quoted rate. Could leave the quoted rates locked for remainder of bond term.
ABS other	Screens referencing EURIBOR/LIBOR rates are the starting point. If those are not available calculation agent is supposed to obtain and use the mean of quotes from London banks. If no quotes can be collected then the LIBOR rate used in the previous payment period is taken.	Discontinuation of LIBOR now disclosed as risk.	Mixed language usually with a fall back to the previous quoted rate. Could leave the quoted rates locked for remainder of bond term.
Other structured credit	European CLO language generally refers to the rate offered at 11 a.m. (Brussels time) for EURIBOR (for example). The offered rate will be that which appears on display on Bloomberg screen "BTMM EU". If those are not available, calculation agent is supposed get and use the mean of LIBOR quotes from London banks.	No change under the determination of rates. However we are frequently seeing the following being added under the mods and waivers section: The issuer may enter into additional agreements to change the reference rate from EURIBOR and to replace EURIBOR, LIBOR to an alternative base rate. Such amendments may only occur as long as they are as a result of a material disruption to LIBOR/EURIBOR, a change in the methodology of calculating LIBOR/EURIBOR or LIBOR/EURIBOR ceases to exist.	
<b>APAC structured finance products</b>			
ABS, RMBS, CMBS, other structured credit	ABS language generally refers to screen referenced LIBOR rates. If those are not available calculation agent is supposed get and use the mean of LIBOR quotes from London banks. NY banks provide backstop to London banks. If banks are no longer quoting LIBOR the various ABS products fall back to the reference used in the previous payment period or a 30 day deposit rate usually with a condition the reference rate cannot be negative (not all deals have this fallback).	Nothing recent with different language.	Mixed language usually with a fall back to the previous quoted rate. Could leave the quoted rates locked for remainder of bond term.
<b>Latin America structured finance products</b>			
ABS other (financial future flows or DPRs)	If cannot be determined interest rate shall be last preceding interest determination date. Some documents also reference the first LIBOR used minus the spread.	Nothing recent with different language.	Loss of LIBOR could leave bonds referencing previous month.
RMBS	If not available on Reuters Screen LIBOR01 page or replacement screen, the calculation agent will determine the arithmetic mean of the offered quotations of the leading banks in the London interbank market at 11 a.m. on the interest determination date.	Nothing recent with different language.	No exposure as rating is weak-linked to MBIA as counterparty.

RMBS--Residential mortgage-backed securities. ABS--Asset-backed securities. CMBS--Commercial mortgage-backed securities. CLO--Collateralized loan obligation. DPR--Diversified payment rights.

To help with the transition, in April 2017 the U.K.'s Risk-Free Rate Working Group (RFRWG) selected the Sterling

Overnight Index Average (SONIA), as a preferred LIBOR alternative. SONIA, which is administered by the Bank of England, references the U.K. overnight unsecured lending and borrower market and has an extensive history. The Bank of England is now taking steps to ensure SONIA becomes a more robust market-based benchmark. Similarly, the Federal Reserve created the ARRC, which identified the broad Treasuries repo financing rate index, or Broad Treasury Financing Rate (BTFR), as a U.S. dollar LIBOR alternative. The Fed and others intend to publish this average index starting in the first quarter of 2018, but they should also be able to construct benchmark history before then. These short-term reference rates currently only have single-day reference markets, and will need to create term market references in order to provide longer-term reference rates like one month or three months. To help with this challenge, some exchanges are taking steps to create futures markets for these reference rates in a variety of terms and currencies--and market participants will be watching to see whether they can emerge with reliable levels with limited basis differential from current benchmarks.

In order for S&P Global Ratings to rate an instrument linked to a variable index, our criteria ("Principles For Rating Debt Issues Based On Imputed Promises," published Dec. 19, 2014) set certain minimum standards, such as that the index should have an established track record (usually a minimum of 10 years), is posted on a public website, is independent, and is calculated in a transparent, consistent, and verifiable manner. As new proposed benchmarks emerge, we will need to consider whether they meet these criteria. The movement to a new floating-rate benchmark could also affect the stability of existing IBORs, which would then require looking at any transition language a structured finance transaction may have. Therefore, we will continue to inventory and research various transaction documents to consider any potential rating implications. We will also be carefully following the development of any new rate replacements to evaluate risks posed to new structured finance products that may reference them. In the end, we don't currently expect bond cash flow disruptions or rating implications for any rated products, and ultimately the impact for structured finance products will depend on several factors coming into play.

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