The Working Group on Sterling Risk-Free Reference Rates

Sam Woods
Prudential Regulation Authority
20 Moorgate
London
EC2R 6DA

23 October 2019

RE: Regulatory capital impediments to transition from ‘IBOR’ to new Risk-Free Rate (“RFR”) Framework

Dear Mr Woods,

As Chair of the Working Group on Sterling Risk Free Reference Rates (**Working Group**) I am writing to set out areas of the prudential capital regime where we have identified potential for changes / forbearance to support a smooth and timely transition from Inter Bank Offer Rates (IBORs) to new alternative risk-free reference rates (RFRs).

The Working Group is one of a number of private-public working groups established globally to implement the Financial Stability Board's recommendation[1] to develop alternative risk-free rates for use instead of or, where appropriate, alongside key IBORs, some of which have been identified as vulnerable to cessation and are therefore a potential source of systemic risk[2]. The issues identified in this letter are therefore likely to be relevant globally. We are aware there are a number of cross-border initiatives that the PRA is involved in to ensure strong co-ordination and, where appropriate, combined action on these issues. We are strongly supportive of these efforts.

As you are aware, the Working Group’s mandate is to catalyse a broad based transition to SONIA as the primary sterling interest rate benchmark. This is in support of the shared goal of both industry and the authorities to move away from the London Interbank Offer Rate (LIBOR).

We understand a constructive dialogue is already underway on many of the issues covered in this letter and note the PRA is taking action in a number of key areas, including removing references to LIBOR through its recent Occasional Consultation Paper – October 2019.

However, for completeness, set out below are a number of areas the Working Group has identified relating to the prudential regulatory frameworks[3][4] for banking institutions that without additional action will potentially slow down and/or impede a smooth transition to alternative risk-free rates for firms (financials and corporates). These cover:

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[1] https://www.fsb.org/wp-content/uploads/r_140722.pdf

[2] In July 2017, Andrew Bailey, chief executive of the UK Financial Conduct Authority (FCA), announced that the regulator did not intend to compel or persuade banks to submit to LIBOR after the end of 2021. This has given extra impetus to efforts to transition to alternative near risk-free rates globally. https://www.fca.org.uk/news/speeches/the-future-of-libor

[3] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2019.150.01.0001.01.ENG&toc=OJ:L:2019:150:TOC

[4] https://www.bis.org/basel_framework/

- the adoption of SONIA in new GBP transactions (**Adoption**);
- the replacement of current exposures that reference GBP LIBOR with corresponding exposures to SONIA (**Replacement**); and;
- the implementation of robust contractual fallbacks in existing LIBOR linked contracts (**Fallbacks**).

In this paper, Adoption, Replacement and Fallbacks are collectively referred to as the ‘transition framework’

Background

All major jurisdictions have taken steps to nominate RFRs, but there are significant differences between their chosen approaches. For example:

- The US and Switzerland have nominated RFRs (SOFR and SARON) based on secured transactions (repo rates), while the UK, Japan and Eurozone have chosen RFRs based on uncollateralised transactions (SONIA, TONA and €STR).
- The UK and Japan will transition to well established benchmarks, while the US and Eurozone have created new benchmarks for which liquidity has to be built from scratch.
- LIBOR rates (which are denominated in USD, JPY, EUR, GBP and CHF) are widely expected to be discontinued after 2021 while JPY TIBOR and EURIBOR are expected to continue to be available for use where appropriate.

These differences mean that global wholesale markets will need to adopt a flexible approach in their efforts to implement the transition framework. The timeline for transition is challenging; firms will need to deploy significant resources to make the necessary progress ahead of the end of 2021, during a period of continuing uncertainty. Implementation of the transition framework will require significant market capacity over the short period left until the end of 2021, with heavy reliance on dealer banks and intermediaries to provide risk management solutions. There are concerns about the potential for bifurcation of liquidity across benchmarks, and lack of sufficient data for risk modelling for both the new and existing benchmarks. The potentially negative impact of increased capital requirements and hence the costs relating to the vast majority of trading book positions that are connected to IBORs and RFRs is likely to constitute a significant impediment to implementing the transition framework, resulting in less intermediation and lower liquidity in the benchmark rates. Furthermore, efforts to implement the transition framework are likely to occur concurrently with significant regulatory change (e.g. Basel III) that will impact the ability of large wholesale banks to provide market capacity.

The Working Group taskforce has identified 3 key areas where flexibility will support the overall aim of facilitating a smooth adoption of risk free rates across both new and legacy positions.

1. Model Change Assessments

Prudential regulations, and particularly internal model standards, were not designed to

accommodate a wholesale (probably phased) shift from existing to alternative interest rate benchmarks across a wide variety of products and currencies. The transition will require firms to have sufficient data to build or re-calibrate internal models. In the absence of such data where new and existing RFRs are not being widely used, a period of forbearance is necessary during which firms are permitted use current benchmarks as proxies and, where possible, backfill or extrapolate to help mitigate against unnecessary capital.

As internal models are recalibrated to accommodate new RFRS the prescriptive nature of model change assessments[5][6][7] are likely to trigger ex-ante regulatory approvals for model changes and notifications from relevant competent authorities. With a fixed deadline and widespread use of interest rate benchmarks across models this will likely result in a significant bottleneck as the industry pursues model change approvals simultaneously. The Working Group therefore requests that regulatory authorities allow ex-post approvals for model changes resulting from the move to alternative risk free rates.

For validating the internal models' performance, the standards also require historic transaction data that will not be available for those RFRs which are newly created benchmarks. The Working Group therefore requests amending the rules to allow use of appropriate proxies for backfilling internal models where appropriate and for as long as is necessary.

While implementation of the new market risk framework ("FRTB") will mainly occur after the end of 2021, the historical data on the new RFRs may not be sufficient for all markets and products to pass the new model eligibility requirements. A transitional period or forbearance will be necessary after which market risk models could be revisited and assessed on an ex-post basis. The Working Group would further like to highlight the lack of clarity on the implementation timelines of the market risk and other regulatory frameworks at a jurisdictional level. This is a concern for global banks with significant exposure to derivative-based instruments as they prepare for the move to risk free rates.

2. Client end-user impact

In addition to the issue pertinent to the model change requirements, the reduction of liquidity for existing IBOR based transactions as a result of the move to using risk free rates may impact firm's modelling of counterparty exposure[8] through an increase in the 'margin period of risk', which is likely to impact the capital associated with these trades and potentially the cost to corporate end-users as firms look to meet hurdle rates. The same forbearance could be leveraged in the context of these more granular prudential requirements.

3. Contractual terms

The below items focus on the effect of existing securities (particularly those with maturities beyond 2021) being deemed 'new' as a result of changing their terms so that instead of

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[5] https://eba.europa.eu/documents/10180/512948/EBA-RTS-2013-06+%28Materiality+of+model+extensions+and+changes%29.pdf/ca607f06-a5aa-4c5b-9301-9cf800dba74f

[6] https://eba.europa.eu/documents/10180/512948/EBA-RTS-2014-10+%28Final+draft+RTS+on+mkt+risk+model+extensions+and+changes%29.pdf/df84e4ab-3eab-40bf-a608-56f682be36ba

[7] https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/supervisory-statement/2017/ss1313update

[8] https://eba.europa.eu/regulation-and-policy/single-rulebook/interactive-single-rulebook/-/interactive-single-rulebook/article-id/3501

referencing an IBOR they instead reference a risk free rate.

MREL (Minimum Requirement for Own Funds & Eligible Liabilities)

While being deemed ‘new’ could have broader implications under the internal models-based approaches, it will also create specific problems for MREL-eligible instruments that are already sensitive to changes in contractual terms. The Working Group therefore requests that supervisory statements are provided, clarifying that the transition to the RFRs does not trigger the requirement to insert relevant contractual terms under regional legislation for bank resolution and recovery. Otherwise, a significant number of MREL-eligible instruments would require costly and operationally intensive “repapering”.

Securitisations- Grandfathering Protection

Similar to the MREL-eligible instrument issue, existing securitisations that have been “grandfathered” as the applicable regulations have changed over the years could lose this protection if the interest basis is changed and thus the deals are legally considered “new”. This could have very undesirable consequences - including harsh sanctions for non-compliance under the Securitisation Regulation. The Working Group therefore requests that supervisory statements are provided, clarifying that the transition to the RFRs does not result in existing securitisations losing their grandfathered status.

Broader considerations

The capital impact of the move to using RFRs is not known at this stage due to significant uncertainties about the size of legacy portfolios, timing, market development and other factors. However, it will result in notable changes in both the banks’ trading and banking books, including for example changes to the hedging strategy, and risk factor universe. These changes are yet to be fully understood as banks continue to review their business strategies, monitor market developments in the new RFRs and analyse the risks.

The Working Group has provided a detailed list of specific cases where regulatory dependencies may act as barriers to smooth implementation of the transition framework in Section A, Annex 1 of this letter. These considerations are accompanied by recommendations that would help prevent creation of bottlenecks that could risk the safety and soundness of financial markets. In Section B of Annex 1, the Working Group has further produced a list of more general effects of the transition and outcomes from the introduction of the new RFR framework. In Sections C and D of Annex 1, we highlight forward looking issues identified by the taskforce which are considered important to the industry as it prepares for material changes in the regulatory landscape.

The lists in the annexes should not be considered comprehensive and we will continue to assess if further material dependencies exist. Should the Working Group identify further adverse effects from the transition we will highlights these in additional correspondence.

I respectfully ask that the recommendations provided in this letter are considered and concrete actions taken where necessary to support the shared goal of both the industry and authorities in delivering a smooth transition minimising any potential threat to the safety and soundness of financial markets and the broader economy.

We thank you in advance for consideration of the points raised and look forward to continuing the constructive dialogue on these important prudential issues.

Yours sincerely,

Tushar Morzaria
Chair of the Working Group on Sterling Risk-Free Reference Rates

Copies to:

Andrew Bailey, Chief Executive Officer, Financial Conduct Authority

Annex 1: Issues which could Inhibit Firms implementing the transition framework (i.e. Adoption, Replacement and Fallbacks, each as defined on the first page of this letter)

Section A: immediate issues which will impede firms' implementation of the transition framework (Blockers)

Risk Area / Type	Sub Topic / Issue	Description
Model Related Issues	**IMA & IMM Model Approvals**[9]	Implementation of the transition framework could be impeded by the prescriptive nature of model change assessments. Careful planning and management of resources will allow banks to mitigate some of the possible negative impacts but there are other areas where banks will be dependent on regulators to process large volumes of applications simultaneously within very tight timeframes. An important consideration is whether changes made to bank risk models following implementation of the transition framework are considered to be model changes that require ex ante model approvals or whether ex-post approval could be sufficient. Specific areas of potential impact: • Model change notification requirements including requirement to obtain pre-approval from regulators for material changes. (e.g. extended periods of review by regulators may force banks to keep transactions outside of the internal models perimeter) • Model backtesting and stress calibration – potentially impacted by limited data time series • Model limitation monitoring – banks' models for the new benchmarks may evolve in sophistication over time, increasing the complexity of the model limitation monitoring framework including efforts to implement compensating controls, such as through capital add-ons. This may also lead to the need for repeated model change submissions to regulators **Recommendation:** A transitional period or forbearance is necessary after which models could be revisited and assessed on an ex-post basis which will help mitigate time and resource constraints for both banks and supervisors.

[9] https://eba.europa.eu/documents/10180/512948/EBA-RTS-2013-06+%28Materiality+of+model+extensions+and+changes%29.pdf/ca607f06-a5aa-4c5b-9301-9cf800dba74f

[9] https://eba.europa.eu/documents/10180/512948/EBA-RTS-2014-10+%28Final+draft+RTS+on+mkt+risk+model+extensions+and+changes%29.pdf/df84e4ab-3eab-40bf-a608-56f682be36ba

[9] https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/supervisory-statement/2017/ss1313update

Model Related Issues	Counterparty Exposure	**Margin Period of Risk (CRR Article 285 3b)**[10] The reduction of liquidity in IBORs or collateral (which reference IBORs), could imply an inability to readily replace them, increases the margin period of risk (MPOR) to a minimum of 20 days. For OTC derivatives, this doubles the starting point for MPOR which would impact counterparty risk. This would likely affect a high proportion of firm exposures because most counterparties would have fewer trades than required by the liquidity criterion and would be very likely to have at least one trade which continues to reference the old benchmark as well as trades which reference the new benchmark rate. Furthermore, the potential increase of RWAs and subsequently the capital utilised against could result in increased costs to end users as firms look to meet hurdle rates. It should also be noted that SA-CCR will also use MPOR. As such, the issue will affect the leverage ratio as well as the modelled counterparty exposure. **Recommendation:** A transitional period or forbearance is necessary after which risk models could be revisited and assessed on an ex-post basis
Contractual terms – change into new reference rates could result in securities deemed "new" instead of existing issuance	**MREL (Minimum Requirement for Own Funds & Eligible Liabilities)**	Transition could affect the treatment of MREL-eligible instruments in a number of important ways: I. The change from IBORs to RFRs as reference rates for debt instruments, either through a fallback amendment or a replacement rate amendment, might be treated as newly issuing an instrument rather than amending an existing instrument. II. A firm subject to the MREL requirements must obtain regulatory approval of contractual write down and/or conversion triggers present in instruments intended to serve as internal MREL. III. In addition, if firms' balance sheets grow in size because of the Increased Volume Effect, total MREL requirements would increase due to increases in the RWAs and total leverage exposure measures. **Recommendation:** We recommend that the authorities clarify that in light of the potential or actual discontinuation of IBORs and movement to the RFRs such a change to contractual terms for in-scope liabilities is deemed as automatic. This would mitigate one of the significant barriers that would otherwise exist to making such a transition possible.

[10] https://eba.europa.eu/regulation-and-policy/single-rulebook/interactive-single-rulebook/-/interactive-single-rulebook/article-id/3501

Contractual terms – change into new reference rates could result in securities deemed "new" instead of existing issuance	**Securitisations- Grandfathering Protection**	Existing securitisations that have been "grandfathered" (as applicable regulations have changed over the years) could lose this protection if the interest basis is changed. This could have very undesirable consequences - including harsh sanctions for non-compliance under the securitisation Regulation. Under the new Securitisation Framework, existing deals are grandfathered in various ways; if there is a switch from for example LIBOR to SONIA, there is a risk that that switch makes them "new" deals and therefore they lose the grandfathering. **Recommendation**: We ask that the authorities clarify that in light of the discontinuation of IBORs and movement to the new RFRs such a change to contractual terms is not deemed a "new deal". This would mitigate one of the significant barriers that would otherwise exist to making such a transition possible.

Section B: General effects of implementing the transition framework (Adoption, Replacement and Fallbacks, each as defined on the first page of this letter)

Risk Area / Type	Sub Topic / Issue	Description
All	**Increased Volume**	During implementation of the transition framework, dealers may hold larger derivatives books than at present because of the need to hold books in both IBORs and risk free rates, including basis swaps and other instruments used to hedge basis risks between IBORs and risk free rates. As a result of this activity, dealers will hold a larger total notional amount of derivatives and hold more derivatives assets and liabilities, as well as trading securities used to hedge this client-driven activity, on their balance sheets.
All	**Reduced Liquidity**	Implementation of the transition framework could adversely impact the liquidity of certain instruments in the markets for floating-rate securities and derivatives. For example, RFR-indexed instruments may remain illiquid during the early part of the Transition. In addition, after a shift in volumes to replacement rate amendments and new RFR transactions, certain remaining IBOR-indexed instruments may become illiquid. Due to waning liquidity, such instruments may cease to be considered “liquid and readily-marketable” under applicable capital and liquidity standards.
All	**Basis Risks**	Basis risk between IBORs and the RFRs, including secured and unsecured RFRs, will need to be considered and the behaviour of these rates under stressed conditions thoroughly understood. To be able to model the behaviour, the permission to use proxies during a transition period will be required. Furthermore, if methodologies to construct term rates/credit spreads diverge between cash/derivative markets and /or different currencies then increased basis risks will be introduced which will result in additional capital due to ineffective hedges.

Section C: Issues which are a consequence from the introduction of the transition framework (i.e. Adoption, Replacement and Fallbacks) and which, on a forward looking basis, could result in barriers to a smooth implementation by firms and regulators

Risk Area / Type	Sub Topic / Issue	Description
Model Related Issues	**FRTB Modelling Permissions**	There are significant cross-dependencies of these new regulations and the transition framework for firms and regulators. To allow for successful delivery across both FRTB and the transition framework, regulators should allow for a transitional period during which permissions for new market risk models are effectively grandfathered. After this transitional period market risk models could be revisited and assessed, preferably on an ex-post basis and this approach should be consistent across jurisdictions. **Recommendation:** A transitional period or forbearance is necessary after which market risk models could be revisited and assessed on an ex-post basis
Model Related Issues	**FRTB Expected Shortfall (ES)** The relevant text can be found in the FRTB Market Risk Standards BCBS 457 Art 33.5 and 33. 6[11]	The implementation of the transition framework could impact the expected shortfall calculation due to lack of a historical time series and the requirement to calculate the ES measure based on a 12 month stress period. Those RFRs which have been newly created will not have an adequate history going back to 2007. The existing IBOR benchmarks are also likely to suffer from poor historical data quality once trading switches over to the RFRs. Both sets of risk factors may therefore need to be proxied. This could result in the failure of a reduced set of risk factors to explain a minimum 75% of the variation in the full ES - leading to inability to use Internal Models under FRTB. Even where this hurdle is passed, the extent of proxying will result in increasing the ratio of current period ES calculated using the Full Set and Reduced Set of Risk Factors. Further, any basis between these Risk Factors and the proxy will need to be capitalised as a Non-Modellable Risk Factor. These two aspects of the ES calculations will result in a significant capital uplift. **Recommendation:** Allow the use of proxies for meeting the criteria for reduced ES and permit banks to not capitalise the basis between these risk factors and the proxy as NMRF

[11] https://www.bis.org/bcbs/publ/d457.pdf

Model Related Issues	Model Review	**Risk Consistency (CRR 288j)** Amendments to legal terms in order to implement the transition framework will require systems to be changed to accommodate the revisions or the requirement for "accurate reflection of legal terms … in exposure value measurements" will be breached. The regulatory drive for consistency across valuation, risk and regulatory frameworks will also be undermined unless regulators permit fast model adoption for prudential purposes. **Recommendation:** A transitional period or forbearance is necessary after which risk models could be revisited and assessed on an ex-post basis
Model Related Issues	**RNIV Capital Impact**	The introduction of newly created RFRs could impact the VaR/SVaR calculations due to lack of a historical time series and will not have an adequate history going back to 2007. The existing IBOR benchmarks are also likely to suffer from poor historical data quality once trading switches over to RFRs. Both sets of risk factors may therefore need to be proxied and thus result in a further capital uplift due to the introduction of new RNIVs. **Recommendation**: Firms should be allowed to backfill and/or extrapolate/interpolate VaR/SVaR time series to ensure an appropriate level of capital and help mitigate against unnecessary RNIVs.
Market Liquidity	**Exceptional Circumstances** The BCBS FRTB Standards provides allowances for banks to continue to use IMA whilst still failing backtesting and PLAT and furthermore allows relief to pass the RFET test under exceptional circumstances.	**Risk Factor Eligibility Test (RFET)** The introduction of the newly created RFRs at around the same time as implementation of FRTB will result in a period where there is likely to be insufficient liquidity in the new benchmarks. There is a concern that the newly created RFRs will not satisfy the modelling conditions set out in the market risk standards and fail the eligibility test. **Treatment for exceptional circumstances** BCBS 457 Art 31.24 and Art 32.45[12] specifically identifies criteria for providing exemptions 'during periods of significant cross-border financial market stress affecting several banks' or when 'financial markets are subjected to a major regime shift'. **Recommendation:** Firms should be allowed to continue to temporarily use the IMA as per the exceptional circumstances provisions in the BCBS market risk standard where failure of PLAT or backtesting can be proven due to the impact of newly created RFRs and 'zombie' IBORs (where the number of panel submitters and tenor points have been reduced resulting in reduced liquidity). Firms should also be provided with an exemption for any failures on RFET due to the newly created RFRs and 'zombie' IBORs. The relief should target the relevant transitioning periods for all key IBOR/RFR rates.

[12] https://www.bis.org/bcbs/publ/d457.pdf

Interest Rate Risk in the Banking Book (IRRBB)		The hedging of interest rate risk in the banking book will usually involve IBOR swaps. Long-dated banking book positions do not necessarily convert to the RFRs, at least at the same time as the market hedges move on to the RFRs and therefore there will likely be higher basis risk between the IRRBB hedges and the BB positions during this period. **Recommendation:** As there is no harmonious global framework for capitalising IRRBB, the Bank of England and other prudential regulators should consider how this basis is captured and capitalised during the transition period, taking into account the multispeed implementation of the transition framework across the main markets and currencies.
Capital Buffers	**GSIB**	Implementation of the transition framework could result in an increase both in a firm's total notional amount of derivatives and in the level 3 assets. The increase in derivative transactions can have a significant impact on the G-SIB surcharge as the OTC notional amounts increase. Further, during the transition, proxies will need to be used in many instances for pricing because of lack of liquidity in new RFR instruments that will lead to sparseness of observations necessary to populate yield and volatility curves. This in turn is likely to cause the reclassification of significant volumes of transactions as level 3. Similarly, other assets that reference IBORs can lose their liquidity and become L3. This increase in firms' level 3 assets impact the calculation of their G-SIB capital buffer. **Recommendation:** Such legacy assets and portfolios should be given temporary regulatory relief in terms of designation to allow for run-off without tying more capital towards existing exposures

Section D: Other Issues which are a consequence of the general effects arising from implementing the transition framework (i.e. Adoption, Replacement and Fallbacks, each as defined on the first page of this letter) where no action has been recommended at this stage

Risk Area / Type	Sub Topic / Issue	Description
Stress Testing	**Stress losses**	There is little data on the performance of IBOR-linked instruments during times of stress. It will therefore be difficult to forecast and model the performance of these instruments for purposes of the stress testing. Firms may rely on proxying these rates to historical IBOR data for the purposes of both internally developed and supervisory stress tests. This could result in imprecise stress losses and regulators may impose more severe hurdle rates on firms to pass the stress tests.
Stress Testing	**Financial Projections**	Implementation of the transition framework could affect firms' financial projections under stress scenarios for both supervisory (BOE, EBA, CCAR) and company-run stress tests. Modelled stress scenarios typically assume a flight to quality. RFRs would likely behave differently from IBORs under a flight to quality. For example, a flight to quality could lower the RFR, whereas current models of stress scenarios typically project increased volatility in IBORs, rather than a predictable decline. As a result of the differing behavior of between these rates under stress, firms' projected net interest margins and other projections could be affected by implementation of the transition framework if firm or supervisory stress testing models include RFRs as macroeconomic variables.
Stress Testing	**Stressed RWAs**	Firms forecast stressed balance sheets to assist in forecasting RWAs as part of for both supervisory (BOE, CCAR) and company-run stress tests. The assumption of a dynamic balance sheet and the potential of greater volume of transactions traded through the introduction of the transition framework, will subsequently impact the balance sheet size of organisations and inadvertently affect the outcome of stress tests.
FRTB	**Market Risk Regulatory Capital Impact**	Implementation of the transition framework across various large economies may also result in additional market risk capital under the FRTB standards. The impact to market risk capital has not been thoroughly explored and the unintended consequence of implementing the transition framework is likely to result in an impact in capital requirements through the lack of liquidity and failing the risk factor eligibility test or increased complexity in the profit and loss attribution test. In addition, the lack of historical rates would result in the Expected Shortfall calculation using proxies and any basis between these risk factors and the proxy will need to be capitalised as a Non-Modellable Risk Factor, thus resulting in a further capital uplift. The impact of the RFRs have also not yet have necessarily been accounted for in the Industry QIS exercises due to operational complexities across jurisdictions at this stage.

FRTB	**Timeline**	The lack of clarity on national implementation timelines for FRTB creates additional concern for major institutions with significant exposure to derivative based instruments. Furthermore, some firms could be aiming to deliver FRTB for Q1, 2022, which coincides with the timeframe for implementation of the transition framework. Both programs require extensive work from the same pool of resources (Front Office IT teams, Risk Quants and other specialized staff) to develop, build and test the models and infrastructures to support both programs. It is not expected that timeline for either work stream should be delayed.
FRTB	**Resource Implications**	Many firms will be required to deliver on FRTB for Q1, 2022, which coincides with the timeframe for implementation for the transition framework. Both programs require extensive work from Front Office IT teams, Risk Quants and other specialized staff to develop, build and test the models and infrastructures to support both programs. Therefore, both programs will be competing for the same scarce resources.
Market Risk	**Funding value and risk**	Implementation of the transition framework will encourage banks to change the discounting of uncollateralised swaps from IBORs to RFRs and to capture the cost or benefit of the funding basis as a spread to RFR as a valuation adjustment. The anticipated accounting of the impact of the funding basis as an adjustment will potentially widen the gap between accounting fair value and prudential standards for exposures. For Market Risk RWA, the shift from IBOR to RFR discounting for uncollateralised exposures could increase the materiality of the ambiguity around the inclusion of funding related value adjustments within the Market Risk (MR) capital covered position. Similarly for Leverage Ratio, the replacement cost of uncollateralised asset exposures has the potential to increase due to the change in discounting conventions away from IBORs to RFRs. The change from one overnight rate to another as the RFR will also have an impact. However, assuming that the RFR-OIS basis will be smaller than FRA-OIS, then the effect will be proportionately smaller. Uncollateralised or partially collateralized deals are likely to take place with smaller end-users where the impact of the misalignment between accounting and prudential standards will impact the most.
Ring Fenced Banks	**Business Model**	The impact from implementing the transition framework may have unintended consequences for 'ring-fenced banks' where potential compliance with thresholds are breached.
Leverage Ratio	**Increased Volume and Balance Sheet**	If the balance sheet size increases as a result of Increased Volumes, the leverage ratio denominator would similarly increase. More precisely, as firms hold both IBOR- and RFR-linked instruments, firms would have duplicative uncollateralized market positions that would end up as receivables on their balance sheets. Consequently, firms would need greater amounts of capital to meet their leverage ratio requirements

Net Stable Funding Ratio (NSFR)	**Increased Volume**	If the amount of gross derivatives liabilities increases as a result of the Increased Volume Effect, then firms could have higher required stable funding amounts. In turn, this would require firms to hold more liquid instruments.
Illiquid Legacy portfolios	**Liquidity Coverage Ratio (LCR)**	If instruments lose “readily marketable” status as a result of the Reduced Liquidity Effect, then firms may have more difficulty meeting their liquidity coverage ratio (“LCR”) requirements. The Reduced Liquidity Effect would be most relevant for level 2A and level 2B liquid assets, which feed into the computation of the amount of high-quality liquid assets that forms the numerator of the LCR.
End User Consideration	**Systemic Issues/Costs**	Commercial end users are fundamentally different from most other participants in the over-the-counter derivatives markets in that they generally use derivatives to reduce risks arising from their business operations. For example, to qualify for the exemption from mandatory margining and central clearing for their derivatives transactions, commercial end-users must have entered into their derivative trades to hedge one of their fundamental commercial risks. From an end-user company’s point of view, the OTC derivatives market should allow the efficient transmittal of risk from where it is incurred to where it can be matched and offset. Undue regulatory costs along the way, including requirements for higher capital placed on its financial intermediaries, are ultimately borne by the end-user.
Illiquid Legacy Portfolios	**Collateral Recognition Eligibility**	As with the Liquidity Coverage Ratio, if instruments lose “readily marketable” status as a result of the reduced liquidity, then firms may no longer be able to recognize collateral received under the collateral haircut approach (also known as “E minus C” treatment), effectively increasing the capital required to be held against exposures collateralized by less liquid collateral.
Illiquid Legacy Portfolios	**Prudential Valuation (PVA)**	After the transition, legacy instruments/portfolios are likely to become illiquid and unmarketable. This would in turn increase the prudential valuation adjustments for such instruments and also increase the GSIB scores of banks with such assets as they transition to L3 asset category. Valuations impact not only revenue, but also directly bring uncertainty and differences to the leverage exposure, and levels of required stable funding for the same positions. As PVA reduces the capital base the leverage and risk capital ratios are also likely to experience downward pressure across the board. Recommendation: Such legacy assets and portfolios should be given regulatory relief in terms of designation to allow for run-off without tying more capital towards existing exposures.