REPORT ON EIOPA'S PROPOSAL FOR THE IMPLEMENTATION OF IBOR TRANSITIONS INCLUDING FEEDBACK FROM THE CONSULTATION PAPER NO. 21/197 ON THE METHODOLOGY AND THE INFORMATION REQUEST NO. 21/198 ON THE IMPACT

EIOPA-BoS-21/381
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European Insurance and
Occupational Pensions Authority

CONTENTS

1. INTRODUCTION

Background

1. The IBOR transitions is a change driven by a new legal requirement which seeks to increase the robustness and reliability of financial benchmarks. In Europe, the new EU Benchmark Regulation (EU BMR)[1] came into force in 2018 and requires financial benchmarks to be transparent and to measure the underlying economic reality in a representative way. In addition to this, the administrator of LIBOR, ICE[2], announced that the majority of the Libor panels will cease to exist at the end of 2021.
2. EIOPA produces risk free rate term structures that for many currencies have been based on IBOR based swaps. Based on the new legal requirement these structures would need to be changed as they can no longer be based on existing instruments. Therefore, EIOPA intends to adjust its risk-free rate (RFR) methodology and production to the new reality by adopting a common approach for all currencies on the transition to the new rates.
3. Currently three currencies will change benchmarks at the end of 2021 (GBP, CHF and the JPY). For those three, a decision for the transition is included in this report. For the USD the change is expected in the mid-2023 and for the EUR the date of transition has not been set yet. For the EUR and the USD the decision for the transition is postponed, however, the general methodology is in place.
4. EIOPA's RFR methodology seeks to produce consistent RFR term structures based on: (a) Replicability (b) Market consistency of the RFR term structures produced (c) Stability for insurance undertakings (d) Interests of policyholders and (e) capability of being implemented into EIOPA's RFR production process. EIOPA wants to remain transparent, follow rather than lead the market, and avoid unnecessary material impact on undertakings, arising from a technical change due to IBOR transitions.

Content

5. This report includes a summary of the comments received by the stakeholders in section 2, the final methodology to perform the IBOR transitions is described in section 3, the results of the information request on the impact assessment of the IBOR transitions are in section 4. The resolution table with the addressed stakeholder comments along with additional information and data is included in the Annex.

Next steps

6. EIOPA will apply the proposed methodology for the calculation of the risk-free interest rates for the first time in January 2022 for the GBP, CHF and JPY, (production round of early February

[1] https://www.esma.europa.eu/policy-rules/benchmarks

[2] https://www.theice.com/iba/libor

2022 for reference date 31-01-2022), in accordance with the implementation approach specified in section 3. For the EUR and the USD, EIOPA will not perform any major changes and will continue to monitor market developments closely. For the euro CRA the OIS will change from EIONIA to ESTER in January 2022.

Acknowledgment

7. EIOPA would like to thank all the participants of the public consultation for their comments on the proposal. The responses received have provided important guidance to EIOPA in preparing the final methodology. EIOPA would like also to thank the NSAs and the undertakings that participated in the information request for the impact assessment, in a year with high statistical burden due to the performance of the stress tests.

2. FEEDBACK RECEIVED THROUGH THE CONSULTATION (EIOPA-BOS/21/197)

2.1 Overview of stakeholder feedback

8. EIOPA received comments on the consultation paper published on the 30th of April from the following eight stakeholders (ten in total of which two requested their participation to remain confidential).
   Participant list:
   - Six industry associations: AMICE, CRO-CFO forum, Insurance Europe, GDV (Gesamtverband der Deutschen Versicherungswirtschaft, German Insurance Association), Institut des actuaires – France, Actuarial Association of Europe (AAE).
   - One member of the industry: Unipol
   - and the Insurance and Reinsurance Stakeholder Group (IRSG)
9. The individual replies and answers provided by EIOPA can be found in the Annex (Section 5.1).

2.2 Feedback on the approach for the transition to the new OIS term structures

i) Summary of the feedback received

10. This section refers to the feedback received to questions 1 to 6. Overall, the majority of the stakeholders agree with the approach of the immediate switch subject to the two preconditions proposed in the consultation paper as they see an advantage over the more dynamic approach with blending proposed originally in the discussion paper in 2020[3].
11. Both the liquidity and proximity conditions described in the consultation paper are seen as sufficient and appropriate for the reduction of the instability which will emerge from the transition to the new RFR term structures.
12. However, a few concerns are raised:

    - The way the two preconditions are defined in the consultation paper can be improved further. More details are needed in order for the stakeholders to better understand and ensure a stable transition.

[3] Available at: https://www.eiopa.europa.eu/content/discussion-paper-ibor-transitions_en

- The communication and the timetable for the switch of each currency needs also to be clarified further. At least three months are needed prior to the transition and ideally the switch should not take place at the end of a quarter.

- Monthly monitoring would need to be introduced and published in order to show in a transparent way the current status of each precondition for each currency.

- A possible publication of both sets of curves (Old IBOR and new OIS or government bonds) is needed for a period of three months prior to the switch for the stakeholders to be able to align and perform its own calculations.

- Enough time should be given to the stakeholders in order to be able to prepare for the switch to the new term structures.

- Changes in the LLPs and type of instrument should not be 'temporary' in order to avoid unnecessary volatility, operational risk and risk management challenges for the stakeholders. This may also affect the ability of insurers to hedge their long-term exposures.

- A degree of flexibility is needed on both pre-conditions with a sufficiently early clarity on when the switch will exactly happen.

- The use of transitional measures was requested as an option to mitigate the magnitude of the impact of the transition.

13. On the question to whether three months is sufficient time for the 'proximity' condition to be applied (or if a shorter period would be sufficient), the majority of the stakeholders mentioned three months or more would be required.
14. On the question to whether there are additional conditions EIOPA would need to consider for the immediate switch to the new OIS term structures the majority of the respondents mentioned that the two conditions specified by EIOPA are generally sufficient.
15. The majority of the respondents believe that the foreseen changes in the RFR methodology and the IBOR transitions could have an impact on the actual market rates, especially after the announcement of the switch and after the actual transition. However, the quantification of the impact can be hardly be assessed reliably. The only way this can be mitigated is by a long lead time and sound communication prior to the transition.
16. According to the stakeholders, an increase in the traded volume of the new OIS based swaps will emerge from increased demand after the transition or after its announcement. Insurers which have long-term liabilities use derivatives to hedge risks arising from changes in the term structures. The substitution of IBOR swaps with OIS swaps in the construction of RFR curve, changes the risks to which companies are exposed. Hence, companies would have to purchase derivatives based on the new OIS for hedging against those risks.

ii) Resolution proposed by EIOPA

17. The majority of these comments and concerns have been taken into account in the final proposal described in section 3. The definition of liquidity and proximity preconditions have been reviewed. The publication and the communication framework has been more clearly defined. The dual publication prior to the transition has been also considered.

18. EIOPA notes that for those undertakings using transitional measures, these may provide some mitigation. See part 4.

2.3 Feedback on the approach towards the Credit Risk Adjustment (CRA)

i) Summary of the feedback received

19. This section refers to the feedback received to questions 7 to 9. The answers summarised in this section focus on the proposed treatment of the Credit Risk Adjustment (CRA) included in the consultation paper.

20. EIOPA proposes the complete removal of the CRA for the new OIS term structures. The rationale behind this proposal is that new OIS rates are deemed to be as close to risk free as possible. EIOPA does not support the call for a negative CRA to be applied to the new term structures as this will result into an artificially higher curve and makes no economic sense since there is no credit risk to adjust for. However, IBOR swaps and government bonds embed credit risk so for these the CRA will continue to be applied.

21. On the first question to whether stakeholders agree to the overall approach regarding the CRA most of the respondents agree to the proposal of EIOPA not to apply the CRA to term structures based on the new OIS instruments since they are essentially free of risk. However, IBOR based swaps and government bonds embed credit risk so for these the CRA would continue to be applied.

22. On the question with regard to the existence of any alternative option that EIOPA would need to consider regarding the treatment of the CRA, the majority of the respondents do not believe that there is an alternative option EIOPA would need to consider with regards to the treatment of the CRA.

23. Finally on the question regarding the view of stakeholders on how to treat the CRA for those currencies for which the CRA is currently being derived from either the CRA for the EUR or the CRA for the USD, the majority of the respondents mentioned that they have no strong view on how this issue could be solved. It was also mentioned that this issue can be addressed at a later stage.

ii) Resolution proposed by EIOPA

24. Overall, there are no strong objections to EIOPA's approach regarding the CRA. The final proposal for the treatment of the CRA can be found in section 3 of this report.

2.4 Feedback on issues related to the impact of the DLT assessment and the treatment of the Long Term Average Spreads (LTAS)

i) Summary of the feedback received

25. This section refers to the feedback received to questions 10 and 11. The answers in this section focus on the impact of the Deep Liquid and Transparent (DLT) assessment of the new OIS instruments and the treatment of the LTAS.

26. On question 10 regarding the DLT assessment, respondents highlighted the need to avoid unnecessary changes in the instruments used to construct the curves, as well as unnecessary changes to the Last Liquid Points (LLP). In principle, the DLT assessment is performed at an annual frequency, but for the new OIS we do perform it more frequently outside the annual cycle in order to identify latest developments. In the consultation paper, based on the outcome of DLT assessment of the new OIS rates performed in March 2021, EIOPA proposed the following changes for the three LIBOR currencies that are expected to change in January 2022:

    a) GBP LIBOR will change to SONIA and the GBP LLP will change from 50 to 30 years.

    b) JPY LIBOR will change from swaps to government bonds due to low liquidity of the TONAR and the JPY LLP will remain unchanged at 30 years.

    c) CHF LIBOR will change from swaps to government bonds due to low liquidity of the SARON and the CHF LLP will shift from 25 to 15 years.

27. Acting upon stakeholder feedback for a three month announcement ahead of the transition, EIOPA is of the view that the decision for the changes to the CHF and JPY-currency has to be taken at this stage given the high probability of non-liquidity and non-DLT-ness of the new OIS instruments. Waiting to see how the market develops in the next three months prior to the change will create additional uncertainty.

28. Finally, on the treatment of the LTAS the majority of the respondents are supportive to EIOPA's proposal not to adjust the history of the rates underlying the calculation of the LTAS.

ii) Resolution proposed by EIOPA

29. EIOPA agrees with the stakeholders that changes to instruments and DLT-definitions should not take place frequently and that the communication needs to be made in a timely manner. This is in line with the stability objective and has been taken into account. The final proposal with regards to the impact of the DLT assessment can be found in section 3 of this report.

30. On the LTAS proposal, EIOPA will include the new rates in the calculation of the LTAS after transition and only looking forward.

3. POLICY PROPOSAL

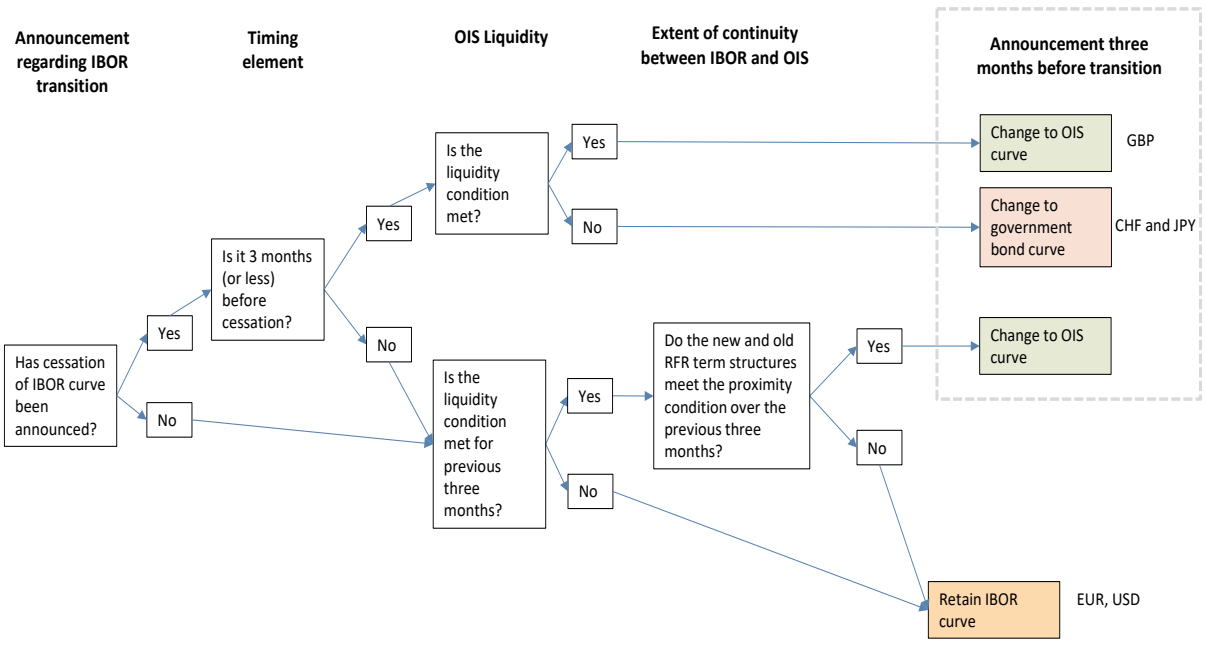
3.1 EIOPA'S METHODOLOGY ON IBOR TRANSITION

OVERVIEW

31. EIOPA's methodology on IBOR transitions suggests that the change to the new curves shall take place instantaneously subject to several conditions that depend on whether the cessation of IBOR curve was announced and the time left before the cessation. On one hand, the liquidity condition is necessary in all cases to ensure that the new curve is liquid and therefore market consistent. On the other hand, the proximity condition, which aims to ensure a smooth transition with limited discontinuity, applied only when the time horizon allows for it. Before a new curve enters production the DLT assessment has to take place. This is in order to define the tenor points which are DLT (including the LLP).

32. In light of the feedback received from the consultation, enough time should be provided to the stakeholders to prepare for the transition. EIOPA has chosen a three month lead time over earlier application. As a result, the time left before the discontinuation of the three LIBOR (GBP, CHF and JPY) does not allow for the application of the proximity condition. The updated decision tree for the IBOR transitions can be seen in the diagram below.

IBOR TRANSITION: TREE DIAGRAM



Note on the diagram: The updated technical definitions of liquidity and proximity can be found in the sections the sections below:

LIQUIDITY CONDITION

33. The swaps traded under the new OIS would need to be 50% of the total traded volume. From this point onwards, the majority of the plain vanilla swap market would be represented by the new OIS instrument. This condition is in line with EIOPA's methodology of market consistency of the RFR term structure.

34. As also mentioned by the stakeholders the overall liquidity of the new OIS instruments over the IBOR swaps is a necessary prerequisite but is not enough to ensure a smooth transition. For instance, there can be a situation where the 50% condition on the total volume is met but it is spread unevenly across the tenors of the curve. In this situation some maturities in the lower part of the curve may be liquid whereas the higher end of the curve up to the LLP is completely illiquid. This will result in a curve where its 'fit' in terms of liquidity is biased. A switch to such curve is likely to bring additional problems to the stakeholders.

35. As a result, EIOPA would like to refine and extend the definition of liquidity in order to capture such possibility. Please note that such refinement holds only when sufficient time is left – i.e. more than 3 months. The new definition is as follows:
Swaps traded under the new OIS would need to be 50% of the total traded volume and the same 50% criterion would also need to be applied individually for the DLT points[4] including the new LLP of the OIS based curve.

36. This ensures that the new OIS curve is sufficiently liquid across most tenors including the LLP and can replace the old IBOR curve in the most efficient and stable manner. The difficulty of insurers to hedge their long-term exposures through the new curve will be mitigated since tenors which are seen as important for the valuation of the technical provisions will be sufficiently liquid across the curve.

37. On the timing, if the announcement has not taken place or the transition date is more than three months, EIOPA would like to ensure that the liquidity condition would hold for three consecutive months. If there are three (or less) months prior to the transition, the evaluation of this condition will take place based on the last available OIS curve in order to give three months prior notice to the stakeholders.

38. On the calculation of the liquidity for the overall curve as well as per tenor, EIOPA uses trade repository data which cannot be shared with the stakeholders. Therefore the calculation for the liquidity condition and the DLT-ness of each tenor would have to take place centrally. However, EIOPA would like to remain transparent in its approach so the intention is to communicate liquidity developments, when needed, to the stakeholders. The information for the month of July (latest data available) is in line with the observations of the previous months and can be found in the Annex section 5.2.

[4] Some expert judgement can be applied to the exact number of the DLT points. However the condition needs to satisfied for the new LLP.

39. Currently the only instrument which can be found liquid and DLT for many tenors including the new LLP is the GBP OIS (SONIA). Although there is a trend to greater use of OIS swaps over the last 4 months (Annex – section 5.2.a), the CHF and the JPY new OIS curves remain well below the 50% threshold[5] and are considered non-liquid.

40. Consequently, EIOPA's proposal, based on the liquidity status of the CHF and of the JPY, is to perform the transition to government bonds as of January 2022 is the appropriate solution in order to ensure market consistent term structures by the time LIBOR rates cease to exist. Waiting for the CHF and JPY new OIS curves to become liquid and DLT in the next few months is found to be too risky. This is the reason why EIOPA believes that a 'wait and see' approach for currencies with an end date is not in line with the request of the stakeholders for a minimum three-month notice prior to the transition.

PROXIMITY CONDITION

41. As mentioned in the consultation paper the timing of the switch to the new OIS term structure should be restricted to a point in time when there is close alignment between the current IBOR- and new OIS-curves in terms of 'proximity' in order to reduce the impact of the switch.

42. Ideally, like for the liquidity condition, the DLT-points of the new curve would need to be as close as possible to the old curve up to and including the LLP. The new OIS curve would need to be a good fit with the IBOR curve in order for the change to be as stable and as smooth as possible.

43. According to the proposed methodology, assuming the liquidity condition is satisfied, the transition to the new rates shall be considered when the difference of the two curves is equal or smaller than the predefined average ranges observed on average for three consecutive months.

44. On this, stakeholders asked for a further clarification on how exactly these three consecutive months would be defined (end of the month, average etc.). EIOPA believes that the best way to do this in order to capture also the intra-month movements would be with a monthly average of the daily differences for all tenors up to the new LLP.

45. As a result, the 'trigger' for the transition is defined as follows:
Assuming the liquidity condition is satisfied, the transition for a specific currency will take place when the average difference of the current IBOR[6]- and the new OIS[7]-based curves is not larger than predefined ranges (+/-2bps) for three consecutive months. For each month, the daily differences for all tenors up to the maximum of the old and new LLP shall be included in the calculation.

46. It is expected that through the proximity condition, when the change shall take place, undertakings would face a smaller impact than they face 50% of the time from monthly shifts in the existing curves. Based on this EIOPA would be able to identify an appropriate timing for

[5] Both in aggregate terms and for the majority of the tenors.

[6] Including CRA.

[7] Excluding CRA.

undertakings to be able to absorb to a certain extent the impact of the switch without serious disturbance of their balance sheet positions. Moreover, the actual IBOR transition may happen after the changes resulting from the 2020 Solvency II Review. EIOPA will have regard to any additional impact resulting from the 2020 review.

47. As requested by the stakeholders, in order to enforce the proximity condition EIOPA would like to add an additional element to the definition. The new curve at the time of the switch shall also be a good 'fit' to the old one in terms of proximity across the majority of the DLT points including the new LLPs. Like with the liquidity precondition, EIOPA would like to avoid having to make the switch when the new curve is skewed in terms of proximity. This addition is made in order to enforce the stability of the transition.

48. EIOPA would like to add that although a stricter and more detailed definition of the proximity was added, a certain degree of flexibility shall be considered on the actual implementation in order to leave enough lead time for the mitigation of any material impact. EIOPA intends to apply expert judgement on the number of tenors for which the condition is met and combine it with the DLT assessment in order to avoid unwarranted discontinuity between the IBOR and OIS curves. EIOPA will confirm the EUR transition once the liquidity precondition has been met.

49. It is EIOPA's intention is to consider publishing relevant information via EIOPA's website in order to inform the stakeholders on the latest developments.

Derivation of the proximity ranges for the EUR and the USD

50. For the EUR and the USD the average interquartile ranges across all tenors up to the LLP, were calculated by EIOPA using all the published RFR term structures for these currencies since the introduction of Solvency II. The results of this calculation became public through the Technical specification of the information request[8].

    Calculated average inter quartile ranges: EUR = 12 basis points, USD=21 basis points [9]

51. These observations, in combination with market observations from end of March 2021, were used to define the scenario in order to assess the impact of the transition to the new OIS term structure assuming a parallel shift up to the new LLP. The scenario for the EUR and USD was defined as follows[10]: EUR: -10bp and USD: -15bp (the level of the credit risk adjustment was taken into account).

52. Based on the observed monthly volatility in the rates and the adjustment made for the scenario of the impact assessment, EIOPA proposes to set the thresholds for the transition of the EUR and the USD to the following values:

EUR: -10bp and USD: -15bp

[8] Available at: https://www.eiopa.europa.eu/sites/default/files/publications/consultations/technical-specification-on-ir-on-ibor-transitions.pdf - page 9.

[9] Note: The interquartile ranges for all tenors up to LLP were based on all available RFR curves published by EIOPA since the introduction of SII.

[10] The scenario did not take into account the full interquartile range. This was due to the fact that within the range there were both positive and negative movements. The purpose of the exercise was to focus on the negative part.

53. Therefore, assuming the liquidity condition is satisfied, the transition to the new rates shall be considered when the difference of the two curves is equal or smaller than 10 bps for the EUR and 15 bps for the USD, on average for three consecutive months.

3.2 OUTCOME OF THE APPLICATION OF THE UPDATED METHODOLOGY TO SPECIFIC CURRENCIES

54. The administrator of LIBOR, ICE[11], has announced that for the GBP, the CHF and the JPY, LIBOR rates will cease to exist at the end of 2021. For those three currencies, a decision for the transition has to be made given the three month lead time requested by the stakeholders. The decision of the new curve to be used depends exclusively on the liquidity precondition and the DLT assessment.

55. As of July 2021, for the GBP the liquidity condition is fully satisfied. However, for the CHF and the JPY volumes have increased somewhat but still remain low. The Deep Liquid Transparent (DLT) assessment performed in July 2021, shows that for the new OIS instruments, only tenors across the GBP can be found to be DLT (Annex – sections 5.3).

56. Given the low liquidity of the new OIS instruments for the CHF and JPY, and the majority of the tenors being non-liquid and non-DLT, a switch to the government bond curve has to be made in order for EIOPA to ensure that market consistent term structures would be in place when the LIBOR rates cease to exist. This is also in line with Article 44 (2) of the delegated regulation.

57. Based on the all the above, EIOPA will implement the following changes from January 2022[12] onwards:

    i) GBP LIBOR curve will change to SONIA curve; the Last Liquid Point (LLP) will change from 50 to 30 years

    ii) JPY LIBOR curve will change to government bond curve and the LLP will remain unchanged at 30 years.

    iii) CHF LIBOR curve will change to government bond curve; LLP will change from 25 to 15 years

58. Although, the CHF LIBOR and JPY LIBOR could eventually satisfy the liquidity condition and DLT-ness close to the end of the year, EIOPA recommends to fix the above proposition at this stage. In order to facilitate the ALM and risk management of the undertakings, the change of instrument for the CHF and the JPY will last for a minimum period of 12 months. The DLT-ness of the new OIS term structures will be reviewed in Q2 2022, during the performance of the annual DLT assessment. If they are found to be DLT for the majority of the DLT points including the LLP, a change to OIS based term structures will be proposed for the beginning of 2023 at the earliest.

[11] https://www.theice.com/iba/libor

[12] February 2022 production. Note: The changes in the LLPs emerge as an outcome of the DLT assessment on the new OIS instruments.

59. As requested by the stakeholders, EIOPA will assess the possibility of publishing the two sets of curves for GBP, CHF and JPY, for three consecutive months prior to the transition date in order for insurers to perform the ALM calculations, adjust their risk management strategies and to align their systems aiming at replicating EIOPA's results.

60. According to the findings of the information request, the impact of the transition of the three currencies (GBP, CHF and JPY) is negligible for the EEA undertakings as demonstrated in chapter 4 of the report. It has been found that only a small number of undertakings, which are also well capitalised, will be affected by this transition.

61. For the EUR, to this day the transition remains uncertain since the EURIBOR is still very liquid and the discontinuation of the publication has not been decided. For the USD, the change is expected by mid-2023.

62. According to the diagram in section 3.1, given that the liquidity condition is not met for these two currencies, the outcome is to retain the IBOR curves for the time being. The methodology is in place, and is be expected to be applied accordingly when liquidity presents.

63. Following the results of the impact assessment, the only material impact to the EEA undertakings might emerge from the transition of the EURIBOR to ESTR. However, the updated methodology is now in place to ensure that the impact to undertakings would be mitigated by restricting the timing of the switch to a point in time when there is close alignment between IBOR and OIS curves (proximity condition).

64. Overall, the combined impact of the transition of the five currencies (EUR, GBP, CHF, JPY and USD) was calculated to be on average -6.1% points to the SCR ratio, across the representative sample of 334 undertakings. In terms of impact, life and composite insurers seem to be the most affected compared to non-life. For the detailed analysis of the impact please refer to section 4 of this report.

3.3 DLT ASSESSMENT

65. In order for the curve to be considered DLT, the majority of the DLT tenors (including especially the LLP and the first liquid point) for each curve must be liquid. In order to ensure an assessment that is consistent across currencies the applied criteria in terms of thresholds are objective and clearly specified[13].

66. The starting point for the assessment are the following initial thresholds for depth and liquidity per tenor:

    - The average daily notional amount traded is at least EUR 50 000 000, and

[13] These thresholds can be found in the Delegated Regulation (EU) 2017/583, Annex III, Table 5.1, row "Fixed-to-Float 'single currency swaps' and futures/forwards on Fixed-to-Float 'single currency swaps'" available at this link).

- The average daily number of trades is at least 10.

67. EIOPA is performing continuous monitoring of swap market volumes in order to determine if, and to what extent, the new OIS instruments satisfy the Deep Liquid and Transparent criteria (DLT). The Deep Liquid and Transparent (DLT) assessment performed in March 2021 (found in section 2.4 paragraph 26) is in line with the DLT assessment performed in August 2021 which was based on July 2021 data. The July outcome for the GBP, JPY and CHF is described in paragraph 58. The detailed outcome for all five relevant currencies can be found in the Annex (section 5.2).

68. For the SONIA (new GBP OIS) the change of the LLP from 50 to 30 years will need to take place since the DLT-ness of the 40 and 50 year tenors is not there. For the CHF and the JPY, the change from swaps to government bond curves is also unavoidable given the low liquidity and the non-DLT-ness of the new instruments. The impact of these changes is not expected to be material for the EEA undertakings. More details on this are presented on section 4 of this report.

69. It has to be stressed that the change of instrument is not some special IBOR specific measure but it must take place for any currency in which the swap market is not DLT as mentioned in article 44 paragraph 2 of the delegated regulation (Annex Section 5.3).

70. The overall impact of these changes will result into slightly steeper and lower term structures for the GBP. For the CHF the term structure will be also lower up to the LLP but then it will increase due to the extrapolation to the Ultimate Forward Rate (UFR). Finally for JPY a small drop in the term structures is expected.

71. EIOPA will continue to perform a DLT assessment on a regular basis for the new OIS instruments for the EUR and the USD. To this day, the LLP for EUR is not expected to change. However, as mentioned in the technical specification for the information request on the impact assessment the LLP for the USD is expected to change from 50 to 30 years.

3.4 TREATMENT OF THE CREDIT RISK ADJUSTMENT (CRA)

72. The new OIS rates are practically risk free. Given they no longer reflect credit risk, the adjustment would be no longer needed to the new OIS term structures. Therefore the level of the CRA which will be applied to the SONIA would be set equal to zero.

73. Article 44 of the delegated regulation requires RFR interest rates to be derived on the basis of interest rate swap rates adjusted for credit risk. The European Commission advised that where an instrument does not reflect a premium for credit risk, no adjustment for credit risk has to be applied. Consequently, it can be concluded that article 45, which is a technical provision for the determination of the CRA, does not apply to the new OIS instruments.

74. However, IBOR swaps and government bonds embed credit risk, so for these the CRA will continue to be applied. The methodology for the application of the CRA to government bond curves is set out in the RFR Technical documentation[14].

[14] Available at: https://www.eiopa.europa.eu/tools-and-data/risk-free-interest-rate-term-structures_en under Background material

Required changes in the RFR Technical Documentation prior to implementation

75. For the CHF and the JPY currencies the derivation of the RFR term structures is currently based on swaps. EIOPA's proposal is to change to government bonds given the non-liquidity of the new OIS instruments. The change of instrument will have a minor impact on the calculation of the CRA.

76. According to EIOPA's RFR technical documentation[15] both currencies currently fall under situation 1 (the risk-free interest rate term structures based on swap rates and the relevant OIS rate meets the DLT requirements). With the switch to government bonds, since both countries are non-EEA, they would have to switch to situation 3 where the calculation of the CRA is based on the USD.

77. According to the existing methodology, an additional consequence would be that Lichtenstein, which is an EEA country and uses the CHF, would have to change from situation 1 to situation 2 where the CRA is equal to the one for the EUR.

78. As a result, two countries (Switzerland and Lichtenstein) with the same currency and the same government-bond based term structures would have a CRA calculated by a different formula. EIOPA believes that this is not market consistent and proposes that Switzerland would also switch to situation 2. The CRA for peer countries such as Switzerland and Lichtenstein, with the same currency should be the same. Furthermore, it has to be noted that that for the calculation of the volatility adjustment the CHF is been treated already as an EEA currency in the RFR production. It makes sense to extend this treatment also for the calculation of the CRA. No impact is expected from this change.

79. The adjustment of the CRA for Switzerland and Lichtenstein, along with additional changes of the Last Liquid Points for the GBP, CHF and JPY are included in the in the updated version of the RFR Technical documentation (EIOPA-BoS-21-384- Technical documentation).

80. Finally, based on the publication of EMMI[16], the EONIA[17] rate which is used to calculation of the euro CRA will be discontinued in the beginning of January 2022. For the calculation of the EUR CRA the ESTR will be used instead. This change is expected to have no impact on the level of the euro CRA however the calculation method will change. The change will be only applied from the beginning of January onwards and the historical EONIA series will not be adjusted. This change is also reflected in the RFR Technical documentation (EIOPA-BoS-21-384- Technical documentation).

3.5 TREATMENT OF LONG TERM AVERAGE SPREAD (LTAS)

81. The LTAS is an input to the calculation of the fundamental spread (FS) for the Matching Adjustment and Volatility Adjustment measures. Spreads over the basic RFR for assets of the

[15] Available at: https://www.eiopa.europa.eu/sites/default/files/risk_free_interest_rate/eiopa-bos-21-317-technical-documentation.pdf - Methodology on the calculation of the CRA pages 32 and 33

[16] https://www.emmi-benchmarks.eu/euribor-eonia-org/about-eonia.html

[17] Euro Overnight Index Average rate.

same duration, credit quality, and asset class data over a 30-year period enter the LTAS calculation.

82. EIOPA proposed that the LTAS calculation should recognise the change in spreads that results from transitioning the RFR to the new OIS from the point of transition onwards only, and that the historic spreads (over IBOR-based RFR) already embedded in the LTAS calculation would remain unadjusted. This proposal found the majority of the stakeholders in favour therefore this is the approach EIOPA intends to follow.

4. OUTCOME OF THE INFORMATION REQUEST FOR THE IMPACT ASSESSMENT OF IBOR TRANSITIONS

4.1 OVERVIEW

83. In order to complement the public consultation on the IBOR transitions, EIOPA has carried out an impact assessment which was based on an information request to insurance and reinsurance undertakings. The information request was carried out during Q2 of 2021 where 334 insurance and reinsurance undertakings assessed the impact of the IBOR transitions on their prudential balance sheet and on their solvency position. The impact was assessed for IBOR transitions for the following currencies: EUR (incl. DKK and BGN), GBP, USD, CHF and JPY.

84. The information request showed that the average impact is limited. Overall, the combined impact of the transition of the five currencies (EUR, GBP, CHF, JPY and USD) was calculated to be on average -6% points (235% to 229%) to the SCR ratio. However, the impact on life insurers is higher, with the weighted average of the SCR ratio decreasing by 10 percentage points.

85. The impact is mainly driven by the IBOR transition for the EUR due to the relative low exposures of technical provisions in the other currencies involved. To this day the transition of the EUR remains uncertain. However, the updated methodology is now in place to ensure that the impact would be mitigated by restricting the timing of the switch to a point in time when there is close alignment between IBOR and OIS curves (proximity condition).

86. The impact emerging from the transition of the GBP, CHF and JPY is negligible for the EEA undertakings. Based on our sample, only a small number of undertakings, which are also well capitalised, will be affected by this transition.

4.2 INFORMATION REQUEST

87. The information request was addressed to a European sample of insurance and reinsurance undertakings. Participants were requested to report assets, liabilities, own funds and capital requirements according to a baseline and a scenario in which the risk-free-rate term structures have changed due to the IBOR transitions. For EUR, GBP and USD the IBOR transitions imply a change to the plain-vanilla swaps used to construct the curves. For CHF and JPY the IBOR transitions imply a change from plain-vanilla swaps to government bonds to construct the curves.

a) Baseline and scenario

88. The baseline corresponds to the reporting information as of 31/03/2021.
    The scenario consisted of:

- A reduction of the basic RFR term structure for the EUR by 10 basis points
- A reduction of the basic RFR term structure for the GBP by 15 basis points and a change of the LLP from 50 to 30 years
- A reduction of the basic RFR term structure for the USD by 15 basis points and a change of the LLP from 50 to 30 years
- A change of instrument and LLP for the CHF (Swaps to Government bonds with an LLP change from 25 of 15 years)
- A change of instrument for the JPY (Swaps to Government bonds with no change in the LLP)
- For the remaining 28 currencies used in the production the term structures remain unchanged.

Participants were requested to recalculate their assets, liabilities, own funds and capital requirements in accordance to this scenario. As described in the previous section, the derivation of the scenario was based on the impact subject to the proximity condition. For the transition of the EUR, the GBP and the USD (IBOR to OIS) the level of the credit risk adjustment was taken into account.

b) Requested reporting information

89. For the baseline and the scenario participants had to provide the amount of the following items:

Liabilities

Best estimate (by line of business, with and without future discretionary benefits)

Risk margin (by line of business)

Technical provisions valued as a whole (by line of business)

Deferred tax liabilities

Other liabilities

Assets

Deferred tax assets

Other assets

Own funds and capital requirements

SCR

Own funds eligible to cover the SCR

MCR

Own funds eligible to cover the MCR

90. Participants were asked to take a proportionate approach to the recalculation of assets, liabilities, own funds and capital requirements under the scenario. Where participants expected that the difference between the baseline and the recalculated item was not material, they could choose not to make the recalculation.

91. Where participants had received supervisory approval for the use of internal models, undertaking-specific parameters, matching adjustments, or volatility adjustments, they made

all calculations on that basis. In jurisdictions where the use of the volatility adjustment was not subject to approval, participants had to apply the volatility adjustment in the calculations if they did so for the baseline.

4.3 SAMPLE OF UNDERTAKINGS

92. The information was requested from a representative sample of 334 insurance and reinsurance undertakings from 30 countries of the EEA. The sample consists of 113 life insurance undertakings, 96 composite insurance undertakings, 107 non-life insurance undertakings and 18 reinsurance undertakings.

93. For each country the sample was selected by the national supervisory authority. The objective of the sample was as follows:

- Life insurance: for each country a representative sample of life and composite insurance undertakings covering at least 50% of life insurance other than unit and index-linked business in terms of technical provisions.
- Non-life insurance: for each country a representative sample of non-life and composite insurance undertakings covering at least 50% of the market in terms of premiums that in particular captures non-life obligations most affected by a change of the risk-free-rate term structures, including annuities stemming from non-life insurance business (e.g. workers' compensation) and health insurance similar to life insurance business.
- The following Figure 1, Table 1 and Table 2 sets out the number and the market share (measured by amount of technical provision) of the sample by country:

Figure 1 - Number and type of undertaking per country

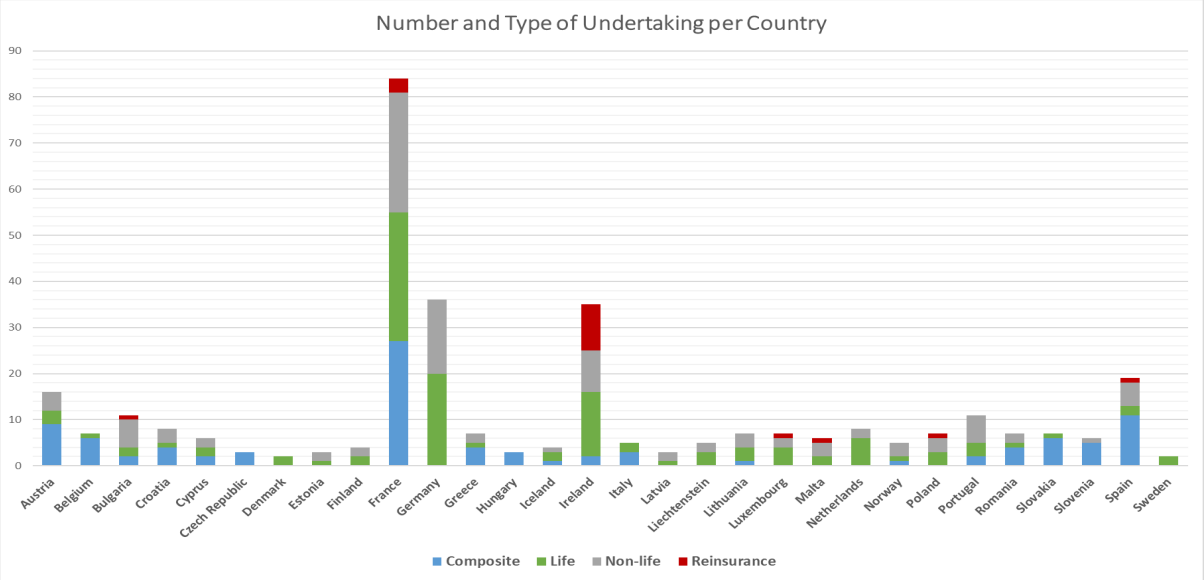


Table 2 - Number of undertakings per country

Country	Composite	Life	Non-life	Reinsurance	Total
Austria	9	3	4		16
Belgium	6	1			7
Bulgaria	2	2	6	1	11
Croatia	4	1	3		8
Cyprus	2	2	2		6
Czech Republic	3				3
Denmark		2			2
Estonia		1	2		3
Finland		2	2		4
France	27	28	26	3	84
Germany		20	16		36
Greece	4	1	2		7
Hungary	3				3
Iceland	1	2	1		4
Ireland	2	14	9	10	35
Italy	3	2			5
Latvia		1	2		3
Liechtenstein		3	2		5
Lithuania	1	3	3		7
Luxembourg		4	2	1	7
Malta		2	3	1	6
Netherlands		6	2		8
Norway	1	1	3		5
Poland		3	3	1	7
Portugal	2	3	6		11
Romania	4	1	2		7
Slovakia	6	1			7
Slovenia	5		1		6
Spain	11	2	5	1	19
Sweden		2			2
Total	**96**	**113**	**107**	**18**	**334**

Table 1 - TP Share per country

Country	Share TP eo 2020	
	Non-Life	Life
Austria	41.7%	59.2%
Belgium	33.7%	68.6%
Bulgaria	41.6%	90.8%
Croatia	68.0%	56.8%
Cyprus	21.6%	96.1%
Czech Republic	24.6%	36.6%
Denmark	0.8%	32.0%
Estonia	46.4%	65.0%
Finland	24.3%	13.6%
France	55.5%	83.3%
Germany	18.4%	58.8%
Greece	52.0%	54.3%
Hungary	28.7%	26.5%
Iceland	54.6%	48.5%
Ireland	33.3%	90.2%
Italy	33.3%	23.2%
Latvia	49.7%	87.1%
Liechtenstein	25.2%	51.0%
Lithuania	90.3%	100.0%
Luxembourg	31.3%	24.9%
Malta	15.0%	100.0%
Netherlands	17.0%	72.2%
Norway	51.5%	60.0%
Poland	42.2%	51.3%
Portugal	42.2%	49.7%
Romania	35.8%	65.4%
Slovakia	65.2%	90.6%
Slovenia	41.3%	39.6%
Spain	46.7%	66.8%
Sweden	0.0%	19.6%
Grand Total	**33.3%**	**60.7%**

Note: (1) The information reflected in Figure 1 does not represent the market structure of insurance market in each particular country, but rather the reflection of the sample.

(2) The Non-life coverage is presented in terms of technical provisions instead of premiums. However the selection of the sample by the NSAs for non-life was based on premiums.

94. From the 334 undertakings that participated in the information request 267 derive their solvency capital requirement (SCR) by means of the standard formula, 30 by means of a partial internal model and 37 with a full internal model.

95. From the 334 undertakings that participated in the information request 157 do not use the VA, while 177 do.

4.4 OVERVIEW OF RESULTS

96. The IBOR transitions modify the risk-free interest rate term structures used to calculate the technical provisions. Consequently there is a direct effect on the amount of these technical provisions. The change of the amount of technical provisions can also affect other elements of the prudential balance sheet of Solvency II.

97. Typical indirect effects are:

- The change in technical provisions results in a change of deferred taxes. In that case, an increase of technical provisions would result in an increase of deferred tax assets or a reduction of deferred tax liabilities.
- The change in technical provisions results in a change of eligible own funds. An increase of technical provisions would usually result in a decrease of eligible own funds. The increase can be mitigated by the change of deferred taxes (see first bullet point).
- The change in technical provisions results in a change of the SCR and MCR. An increase of technical provisions would usually lead to an increase in the SCR and the MCR.

Table 3 sets out the average relative change of the balance sheet items, eligible own funds and the capital requirements due to the IBOR transitions.

Table 3 - Average Relative Change Balance Sheet

Average Relative Change of Balance Sheet Items (in %)	Scenario
Assets	
Deferred Tax Assets	3.14%
Other Liabilities	0.03%
Liabilities	
Technical Provisions	0.32%
Deferred Tax Liabilities	-1.98%
Other Liabilities	-0.05%
Capital	
Eligible Own Funds to cover SCR	-1.28%
SCR	1.37%
Eligible Own Funds to cover MCR	-1.39%
MCR	1.43%

98. The change of eligible own funds and SCR leads to a change of the SCR-ratio. The SCR-ratio is the ratio of eligible own funds to cover the SCR and the SCR. Figure 2 sets out the average SCR-ratios under the baseline and under the scenario for each country including the change in SCR-ratio in %-pts. An alternative way of presenting these results can be observed in Figure 3. Both figures show the same information, but presented differently:

Figure 2 - Average SCR-ratio and change in SCR-ratio (in %-pts) by Country

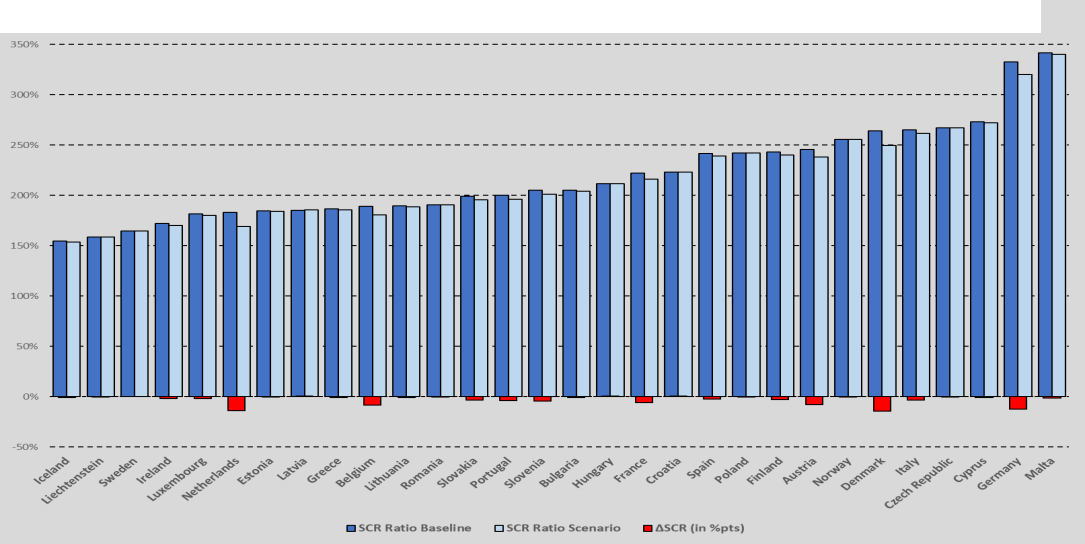
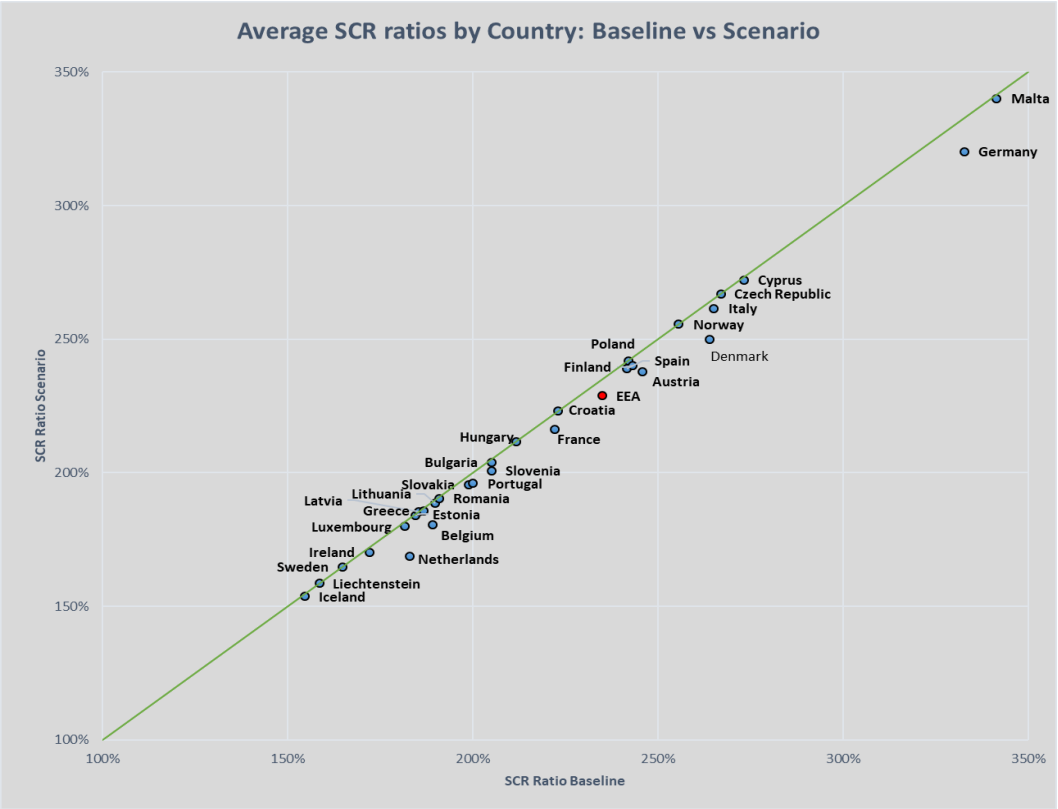
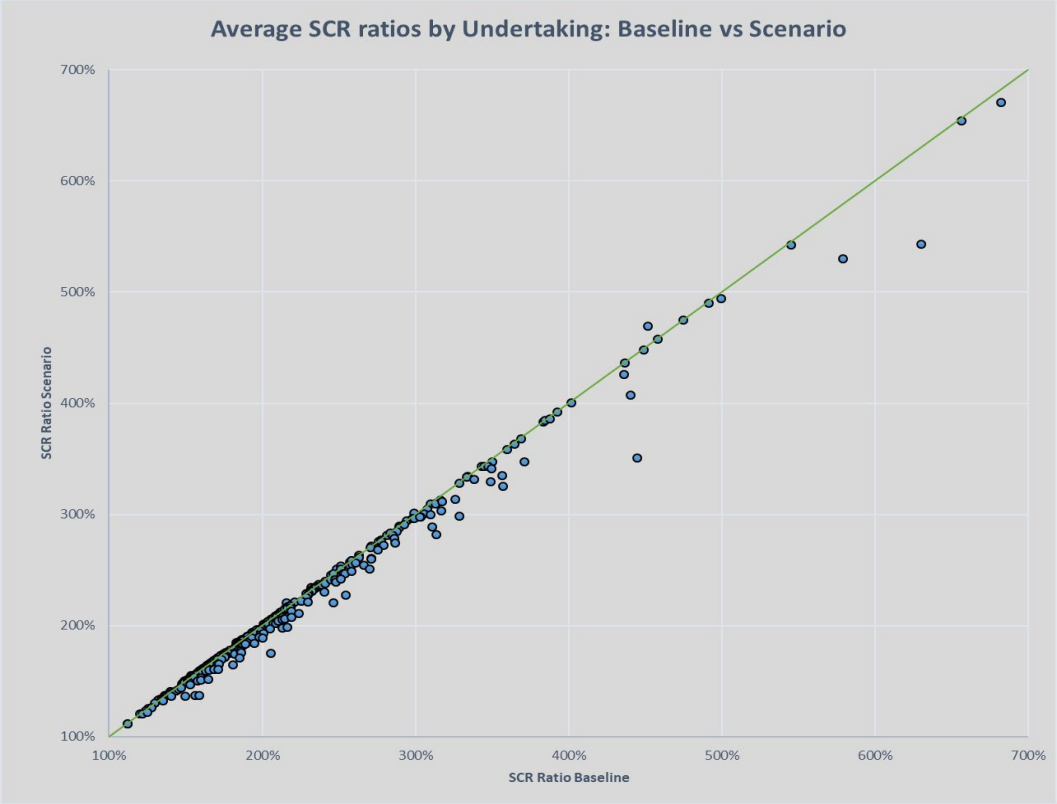


Figure 3 - Average SCR-ratio by Country



99. Each country in Figure 3 is placed according to its average SCR ratio in the baseline (horizontal position) and its average SCR ratio in the scenario (vertical position). For countries on the green diagonal the average SCR ratio in the baseline and in the scenario coincide. For countries below the diagonal the average SCR ratio in the scenario is lower than in the baseline. This way of presentation also allows to show the SCR ratios for many individual participants in one picture, see Figure 4 below:

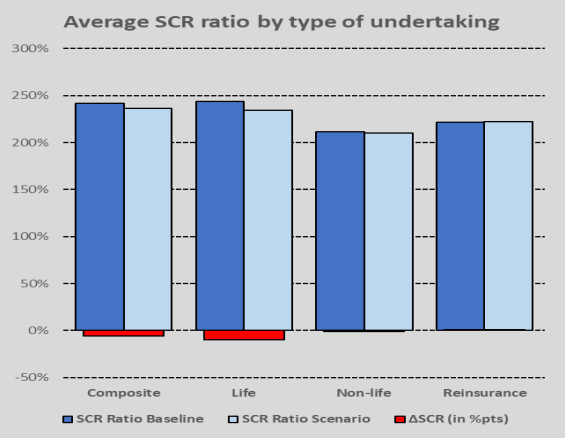
Figure 4 - Average SCR-ratio by Undertaking



100. Each dot represents one undertaking. For presentational purposes only participants with an SCR-ratio up to 700% are shown. The SCR-ratio is quite resilient to the IBOR transitions (most dots are close to the diagonal). Only for few undertakings a stronger impact can be observed (their points are further away from the diagonal). These undertakings all have SCR-ratios that are relatively high compared to the changes incurred.

101. In general the nature of the insurance business determines the ultimate impact on the SCR. This ultimate impact is greater for life business than for non-life business as demonstrated in the figure 5. The figure clearly demonstrates that life- and composite businesses are affected the most by the IBOR transitions.

Figure 5 - SCR-ratio by Type of Undertaking



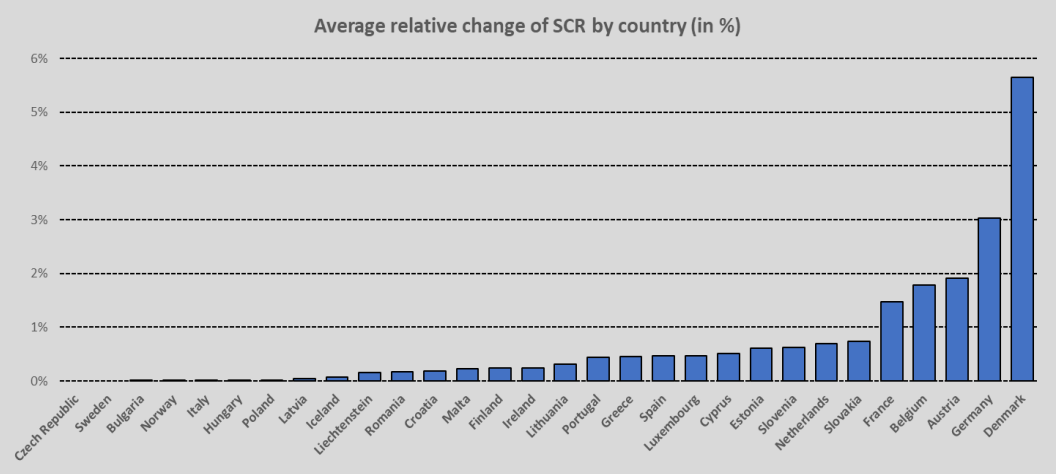
102. The following table shows for the data underlying Figure 5 the change in the SCR-ratio (in %-pts) for each type of business per country. The total effect per country is a weighted average over the number and types of business per country as demonstrated before in Figure 2 and Figure 3.

Table 4 - Change in SCR-ratio per Type of Business

COUNTRY	ΔSCR (in %pts) per Type of Business				
	Life	Composite	Non-life	Reinsurance	Total
Denmark	-14.4%				-14.4%
Netherlands	-16.1%		-2.4%		-14.1%
Germany	-26.4%		-1.1%		-12.5%
Belgium	5.0%	-9.5%			-8.6%
Austria	-12.5%	-7.5%	-7.2%		-7.9%
France	-8.3%	-6.3%	-1.6%	1.4%	-5.9%
Slovenia		-5.0%	0.0%		-4.2%
Portugal	-5.6%	-2.8%	-2.9%		-4.0%
Italy	-5.6%	-3.3%			-3.6%
Slovakia	-1.4%	-3.7%			-3.3%
Finland	-3.0%		-2.8%		-2.9%
Spain	-1.3%	-3.4%	-0.7%	0.0%	-2.6%
Ireland	-3.6%	-1.4%	-0.2%	-1.2%	-1.8%
Luxembourg	-6.1%		-0.2%	-1.1%	-1.7%
Malta	-5.1%		-0.1%	-0.7%	-1.4%
Cyprus	-2.2%	-1.1%	-0.5%		-1.1%
Bulgaria	-2.0%	-4.1%	-1.1%	-0.7%	-1.1%
Lithuania	-1.0%	-3.5%	-0.7%		-1.1%
Greece	-2.9%	-0.3%	-0.2%		-0.8%
Iceland	0.0%	-1.1%	0.0%		-0.7%
Estonia	-0.1%		-0.7%		-0.6%
Romania	0.0%	-0.6%	-0.0%		-0.4%
Norway	0.0%	0.0%	-0.4%		-0.1%
Poland	0.0%		-0.1%	-0.3%	-0.1%
Liechtenstein	-1.0%		0.1%		-0.0%
Czech Republic		-0.0%			-0.0%
Sweden	0.0%				0.0%
Hungary		0.1%			0.1%
Croatia	0.0%	0.2%	-0.1%		0.1%
Latvia	2.6%		-1.3%		0.2%
Total	**-9.8%**	**-5.5%**	**-1.2%**	**0.2%**	**-6.15%**

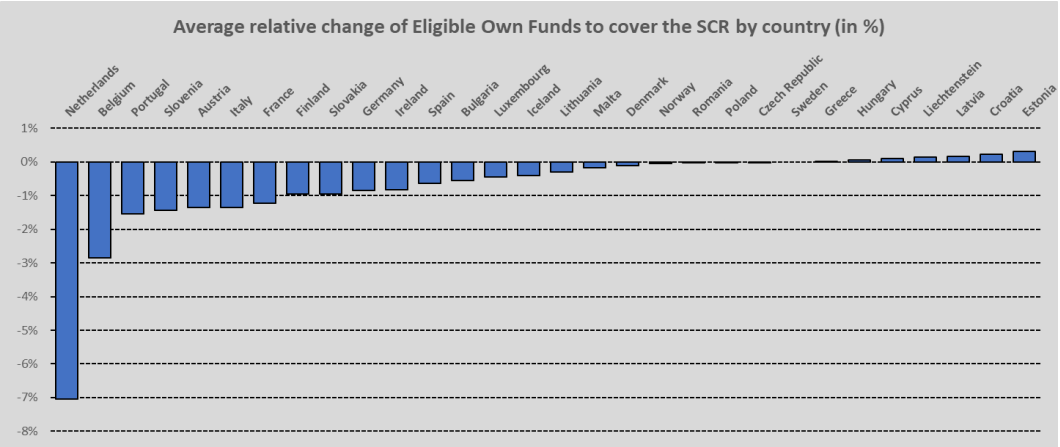
103. A change in the SCR ratio is either the result of a change in the eligible own funds (EOF; numerator) or a change in the solvency capital requirement (SCR; denominator) or both. Figure 6 and Figure 7 show the average relative change of the SCR respectively the average relative change the EOF. From these figures follow that for most countries the change in the SCR-ratio is a combined effect of the change in EOF and the change in SCR.

Figure 6 - Average relative change of SCR



104. The change in SCR is mainly a result of a change of the technical provisions. The nature of the insurance business underlying the technical provisions, and hence the SCR, determines the ultimate impact on the SCR. This ultimate impact is greater for life business, especially annuity business, than for non-life business. These effects together with the composition of the sample of participants underlie the relative higher impact on the SCR for Denmark and Germany.

Figure 7 - Average relative change of EOF



105. The change of the eligible own funds is mainly driven by a change of the technical provisions. An increase of technical provisions would usually result in a decrease of the eligible own funds. The increase of technical provisions can be mitigated by the change of deferred taxes. Next to that the increase in technical provisions can be limited due to the use of the loss absorbing capacity of discretional benefits within the technical provisions itself. To understand the

different impact on eligible own funds better a further analysis of the impact on the different balance sheet items is made in the following sections.

4.5 ANALYSING THE CHANGE IN THE SCR RATIO

106. This paragraph sets out a conceptual framework for analysing the drivers of the change in SCR-ratio in the scenario. For that purpose the change of the SCR-ratio (in percentage points) is allocated to the changes in assets, liabilities, eligible own funds and the SCR. This decomposition allows comparing the underlying drivers of the change of the SCR-ratio and their relative contribution to the amount of the change.

107. The SCR ratio (SR) is defined according to the following formula:

$$SR = \frac{EOF}{SCR} \times 100\%$$

The change in SCR-ratio in percentage points (ΔSR) follows from the following definition:

$$\Delta SR = \left(\frac{EOF_s}{SCR_s} - \frac{EOF_b}{SCR_b}\right) \times 100\%$$

The subscripts *s* and *b* refer to '*scenario'* respectively '*baseline*'.

Now ignoring the multiplication with 100% for ease of notation, the change in SCR-ratio can be decomposed into the following parts:

$$\Delta SR = \frac{EOF_s - EOF_b}{SCR_b} + EOF_b \cdot \left(\frac{1}{SCR_s} - \frac{1}{SCR_b}\right) + (EOF_s - EOF_b) \cdot \left(\frac{1}{SCR_s} - \frac{1}{SCR_b}\right)$$

108. The first term on the right hand side of the equation above can be seen as the change in the SCR ratio due to the change in eligible own funds - (I).

109. The second term on the right hand side of the equation above can be seen as the change in the SCR ratio due to the change in solvency capital requirement - (II).

110. The third term on the right hand side of the equation above can be seen as the combined effect on the change in the SCR ratio due to both the SCR and EOF changing at the same time - (III)[18].

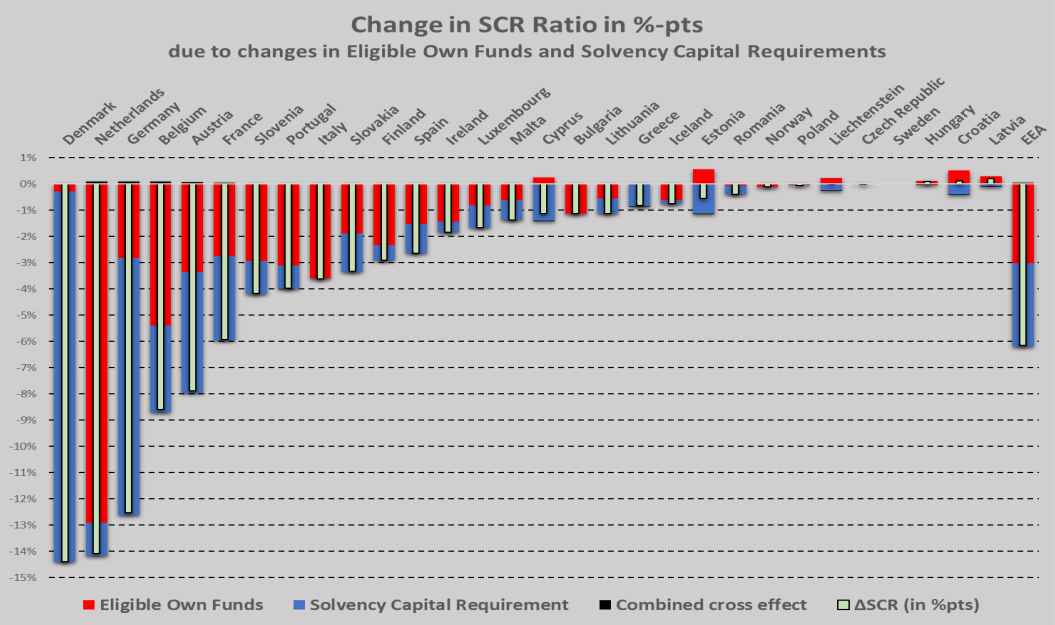
[18] It should be noted that the combined effect is in general non-material as demonstrated in Table 5.

111. Using the respective items from the information request the following overview of the change in SCR ratio (in %-pts) per country follows:

Table 5- Change in SCR-ratio due to change of EOF and SCR

COUNTRY	SCR Ratio Baseline	SCR Ratio Scenario	ΔSCR (in %pts)	due to change of: (I) Eligible Own Funds	(II) Solvency Capital Requirement	(III) Combined cross effect
Denmark	264.1%	249.7%	-14.4%	-0.28%	-14.12%	0.02%
Netherlands	182.9%	168.8%	-14.1%	-12.90%	-1.26%	0.09%
Germany	332.7%	320.2%	-12.5%	-2.82%	-9.80%	0.08%
Belgium	189.2%	180.6%	-8.6%	-5.39%	-3.30%	0.09%
Austria	245.8%	237.9%	-7.9%	-3.34%	-4.61%	0.06%
France	222.1%	216.2%	-5.9%	-2.75%	-3.21%	0.04%
Slovenia	205.0%	200.8%	-4.2%	-2.93%	-1.27%	0.02%
Portugal	200.0%	196.1%	-4.0%	-3.11%	-0.88%	0.01%
Italy	265.1%	261.5%	-3.6%	-3.60%	-0.01%	0.00%
Slovakia	198.9%	195.6%	-3.3%	-1.89%	-1.46%	0.01%
Finland	243.1%	240.2%	-2.9%	-2.33%	-0.57%	0.01%
Spain	241.6%	238.9%	-2.6%	-1.52%	-1.12%	0.01%
Ireland	172.1%	170.3%	-1.8%	-1.44%	-0.41%	0.00%
Luxembourg	181.5%	179.8%	-1.7%	-0.83%	-0.84%	0.00%
Malta	341.5%	340.1%	-1.4%	-0.62%	-0.75%	0.00%
Cyprus	273.3%	272.1%	-1.1%	0.25%	-1.39%	-0.00%
Bulgaria	205.1%	203.9%	-1.1%	-1.13%	-0.00%	0.00%
Lithuania	189.7%	188.6%	-1.1%	-0.55%	-0.58%	0.00%
Greece	186.6%	185.8%	-0.8%	0.02%	-0.84%	-0.00%
Iceland	154.5%	153.8%	-0.7%	-0.63%	-0.12%	0.00%
Estonia	184.5%	184.0%	-0.6%	0.56%	-1.12%	-0.00%
Romania	190.8%	190.4%	-0.4%	-0.07%	-0.33%	0.00%
Norway	255.7%	255.6%	-0.1%	-0.10%	-0.01%	0.00%
Poland	241.9%	241.8%	-0.1%	-0.04%	-0.03%	0.00%
Liechtenstein	158.7%	158.6%	-0.0%	0.23%	-0.25%	-0.00%
Czech Republic	266.9%	266.9%	-0.0%	-0.01%	0.00%	0.00%
Sweden	164.8%	164.8%	0.0%	0.00%	0.00%	0.00%
Hungary	211.6%	211.7%	0.1%	0.10%	-0.02%	-0.00%
Croatia	222.9%	223.0%	0.1%	0.51%	-0.41%	-0.00%
Latvia	185.3%	185.5%	0.2%	0.28%	-0.08%	-0.00%
EEA	**234.9%**	**228.8%**	**-6.1%**	**-3.01%**	**-3.18%**	**0.04%**

Figure 8 - Change in SCR-ratio due to change in EOF and SCR



112. As already indicated by Figure 6 and Figure 7 the cause for the change in SCR-ratio varies quite a bit between countries (and undertakings). The change in SCR has been discussed under Figure 6. The change in EOF will be analysed further in detail in the following paragraph.

4.6 ANALYSING THE CHANGE IN THE SCR RATIO DUE TO THE CHANGE OF EOF

113. An undertakings' eligible own funds are the result of the available own funds corrected for the non-eligible part of it. The available own funds consist of assets over liabilities plus other available own funds. The relation between the different parts of own funds can be formalised using the following equation:

$$OA + DTA - (DTL + TP + OL) + OAOF = EOF + NEOF$$

Where:

OA: Other Assets
DTA: Deferred Tax Assets

DTL: Deferred Tax Liabilities
TP: Technical Provisions
OL: Other Liabilities

$OAOF$: Other Available Own Funds
EOF: Eligible Own Funds
$NEOF$: Non-Elgible Own Funds

The equation states that assets over liabilities plus other available own funds equal the eligible own funds plus the non-eligible own funds.

Using this equation it is straightforward to describe the changes in eligible own funds into the other balance sheet items:

$$EOF = OA + DTA - (DTL + TP + OL) + NOOF$$

114. As the other available own funds and the non-eligible own funds are not part of the information request an additional help item is introduced called net other own funds (NOOF). The net other own funds follow from the equation above as all other items in the equation are reported.

Based on both equations if follows that NOOF is defined as:

$$NOOF = OAOF - NEOF$$

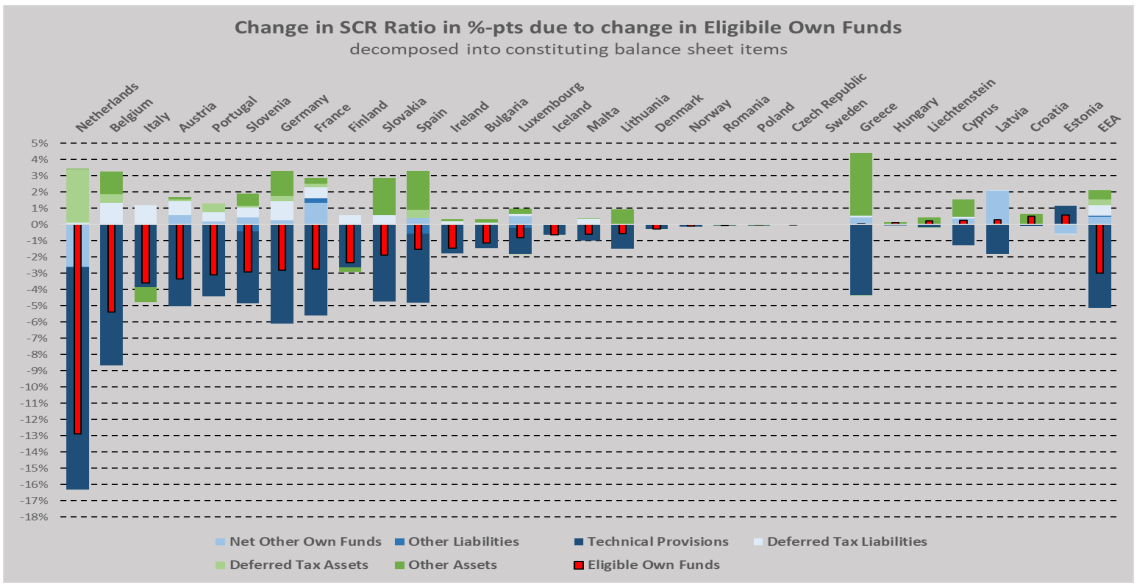
The net other own funds (NOOF) equal the difference of other available own funds and non-eligible own funds.

115. We have seen before that the first term on the right hand side of the equation for the change in SCR-ratio (ΔSR) can be seen as the change in the SCR-ratio due to the change in eligible own funds. Now using the formula for the eligible own funds from above it is possible to decompose the change in SCR-ratio due to the change of the eligible own funds into the constituting balance sheet items as demonstrated below.

Table 6 - Change in SCR-ratio due to change in EOF decomposed

COUNTRY	%-pts change in Eligible Own Funds	due to change of: Other Assets	Deferred Tax Assets	Deferred Tax Liabilities	Technical Provisions	Other Liabilities	Net Other Own Funds
Netherlands	-12.90%	0.01%	3.32%	0.10%	-13.67%	-0.07%	-2.58%
Belgium	-5.39%	1.41%	0.53%	1.30%	-8.65%	0.04%	-0.01%
Italy	-3.60%	-0.94%	0.00%	1.18%	-3.84%	0.00%	0.00%
Austria	-3.34%	0.15%	0.13%	0.84%	-5.00%	-0.04%	0.58%
Portugal	-3.11%	0.00%	0.54%	0.57%	-4.41%	0.00%	0.19%
Slovenia	-2.93%	0.76%	0.10%	0.63%	-4.42%	-0.42%	0.42%
Germany	-2.82%	1.54%	0.31%	1.17%	-6.10%	0.00%	0.27%
France	-2.75%	0.36%	0.22%	0.66%	-5.60%	0.30%	1.33%
Finland	-2.33%	-0.27%	0.00%	0.58%	-2.65%	0.00%	0.00%
Slovakia	-1.89%	2.27%	0.02%	0.56%	-4.73%	0.00%	-0.01%
Spain	-1.52%	2.40%	0.50%	0.01%	-4.25%	-0.57%	0.39%
Ireland	-1.44%	0.13%	0.01%	0.20%	-1.74%	-0.03%	-0.01%
Bulgaria	-1.13%	0.20%	0.03%	0.10%	-1.41%	0.00%	-0.04%
Luxembourg	-0.83%	0.35%	-0.01%	0.14%	-1.61%	-0.20%	0.49%
Iceland	-0.63%	0.00%	0.00%	0.00%	-0.63%	0.00%	0.00%
Malta	-0.62%	0.01%	0.01%	0.33%	-0.97%	-0.01%	0.01%
Lithuania	-0.55%	0.89%	0.04%	0.00%	-1.49%	0.00%	0.01%
Denmark	-0.28%	0.00%	0.00%	0.00%	-0.29%	0.00%	0.01%
Norway	-0.10%	0.00%	0.00%	0.03%	-0.13%	0.00%	0.00%
Romania	-0.07%	0.00%	0.00%	0.01%	-0.06%	0.00%	-0.02%
Poland	-0.04%	0.00%	0.00%	0.01%	-0.05%	0.00%	0.00%
Czech Republic	-0.01%	0.00%	0.00%	0.00%	-0.01%	0.00%	0.00%
Sweden	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Greece	0.02%	3.89%	-0.05%	0.07%	-4.34%	-0.01%	0.45%
Hungary	0.10%	0.17%	0.00%	-0.01%	-0.05%	0.00%	0.00%
Liechtenstein	0.23%	0.43%	-0.02%	0.01%	-0.18%	0.00%	0.00%
Cyprus	0.25%	1.06%	0.01%	0.10%	-1.28%	0.00%	0.36%
Latvia	0.28%	0.00%	0.00%	0.03%	-1.83%	0.00%	2.09%
Croatia	0.51%	0.64%	0.01%	-0.04%	-0.10%	0.00%	0.00%
Estonia	0.56%	0.00%	0.00%	-0.04%	1.16%	0.00%	-0.56%
EEA	**-3.01%**	**0.56%**	**0.38%**	**0.62%**	**-5.12%**	**0.08%**	**0.48%**

Figure 9 - Change in SCR-ratio due to change in EOF decomposed



116. Table 6 and Figure 9 show the constituting balance sheet items underlying the change in eligible own funds driving the change in the SCR-ratio. (Note: all effects are measured in %-pts change of the SCR-ratio.)

117. The negative impact of the technical provisions is due to the technical provisions increasing as a result of the IBOR transitions. From these results it is clear too, that countries show quite different effects compensating the impact of the increase in the technical provisions. Some countries show a relative big increase in the value of other assets, while others compensate the impact by use of deferred taxes and/or changes to the net other own funds.

118. On average for the EEA the impact of the change in technical provisions on the SCR-ratio (-5.12%-pts) is compensated by deferred taxes (+1%-pts; 0.38%-pts DTA + 0.62%-pts DTL), by other assets (+0.56%-pts) and by net other own funds (+0.48%-pts), resulting in a net impact of -3.01%-pts SCR-ratio, which equals by construction the change in SCR-ratio due to the change in eligible own funds.

4.7 ANALYSING THE CHANGE IN THE SCR RATIO DUE TO THE CHANGE OF TECHNICAL PROVISIONS

119. The change in technical provisions is due to the following effects:

(i) The currency exposure of the technical provisions

Only technical provisions denoted in the currencies affected by the IBOR transitions are expected to change.

(ii) The nature of the underlying business, i.e. life vs non-life business

It was shown in Figure 5 and Table 4 that the life business is most sensitive to the IBOR transitions. This is a direct result of the long-term nature of life-business and follows from discounting the expected future cash-flows underlying the best estimate technical provisions, risk margin and SCR. The extent to which technical provisions are affected by the IBOR transitions can be mitigated by the loss absorbing capacity of discretionary benefits if applicable.

In the following part both these effects will be further analysed:

120. **(i) The currency exposure of the technical provisions**

Table 7 below shows for each participating country the relative distribution of the currency exposures of the technical provisions for that country.

Table 7 - TP Currency Exposure by Country (based on the sample)

Total TP Currency Exposures per Country	EUR	GBP	USD	CHF	DKK	BGN	JPY	Other
Austria	100.0%	0.0%	0.0%					0.0%
Belgium	100.0%		0.0%					
Bulgaria	44.3%	0.1%	3.7%	0.0%		30.0%		21.9%
Croatia	2.7%		0.3%					97.0%
Cyprus	78.7%	0.1%	12.2%					9.0%
Czech Republic	1.3%	0.1%	0.0%	0.0%	0.0%	0.0%		98.6%
Denmark					100.0%			
Estonia	100.0%							
Finland	100.0%							
France	99.8%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%
Germany	100.4%	-0.1%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Greece	100.0%							
Hungary	2.5%		0.3%	0.1%				97.2%
Iceland	0.5%	1.0%	0.2%					98.3%
Ireland	82.9%	13.7%	2.0%	0.2%	0.0%	0.0%	0.0%	1.2%
Italy	99.6%		0.3%	0.0%				
Latvia	99.2%	0.3%	0.1%	0.0%	0.0%			0.5%
Liechtenstein	65.1%	0.5%	4.2%	28.9%	0.0%		0.0%	1.3%
Lithuania	99.5%	0.2%	0.0%		0.0%			0.3%
Luxembourg	87.6%	3.6%	5.8%	2.2%	0.3%	0.0%	0.0%	0.6%
Malta	96.6%	2.8%	69.6%				-0.1%	-68.8%
Netherlands	100.0%							
Norway	0.1%	0.1%	0.1%		1.1%			98.6%
Poland	7.2%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	92.2%
Portugal	100.0%							
Romania	4.8%	0.1%	1.0%	0.0%				94.0%
Slovakia	100.0%							
Slovenia	98.3%	0.5%	0.0%		0.0%			1.1%
Spain	99.3%	0.1%	0.5%	0.0%	0.0%	0.0%	0.1%	0.0%
Sweden								100.0%
Grand Total	**91.8%**	**1.1%**	**0.3%**	**0.1%**	**2.9%**	**0.0%**	**0.0%**	**3.7%**

121. From this table it follows that most countries are either exposed to the EUR (incl. DKK and BGN), or to a currency not affected by the IBOR transitions (column Other). Only three countries show some more significant exposure to other currencies affected by the IBOR transitions: Ireland (13.7% GBP exposure), Liechtenstein (28.9% CHF exposure) and Malta (69.6% USD exposure).

122. In total 94.8% of the technical provisions are exposed to the EUR (incl. DKK and BGN), 3.7% is not exposed to a currency affected by the IBOR transitions, which leaves 1.5% of the technical provisions exposed to the other affected currencies.

123. From this we can conclude that any impact of the IBOR transitions is mainly driven by a change in the EUR reference rate.

124. **(ii) The nature of the underlying business, i.e. life vs non-life business**

125. The technical provisions equal the sum over all lines of business of the technical provisions as a whole plus the best estimate technical provisions plus the risk margin minus any applicable transitional measures on the technical provisions.

126. This relation is formalised in the following equation:

$$TP = \sum_{k \in \{LoBs\}} (TPW_k + TPBE_k + TPRM_k) - TPTM$$

127. Using this relation it is possible to break down the column for the change in the SCR-ratio due to a change in the technical provision from Table 6 even further into the change in the SCR-ratio for each component of the technical provisions according to the equation above.

128. This decomposition is demonstrated in Figure 10 below. From this decomposition it follows that the change in SCR-ratio due to the change of the technical provisions is mainly driven by the change of the best estimate technical provisions for direct life business. It also demonstrates for some countries like Denmark and Germany the use of the loss absorbing capacity of discretionary benefits.

Figure 10 - Change in SCR-ratio due to change in TP decomposed

COUNTRY	Change in SCR ratio in %-pts due to change in Total TP	Change in SCR Ratio (in %-pts) due to change of Total TP due to change of:											
		Transitional Measures		TP Whole	TP Best Estimate					TP Risk Margin			
		on RFR	on TP	TP Whole	BE Non Life Direct Business Proportional Reinsurance	BE Non Life Non Proportional Reinsurance	BE Life Direct Business excl. Discretionary Benefits	BE Life Direct Business Discretionary Benefits	BE Life Reinsurance	RM Non Life Direct Business Proportional Reinsurance	RM Non Life Non Proportional Reinsurance	RM Life Direct Business	RM Life Reinsurance
Netherlands	-13.67%	0.00%	0.00%	0.00%	-0.12%	-0.00%	-11.91%	0.00%	0.00%	-0.01%	-0.00%	-1.63%	0.00%
Belgium	-8.65%	0.00%	0.00%	0.00%	-0.34%	-0.00%	-8.70%	0.84%	-0.01%	-0.03%	-0.00%	-0.39%	-0.00%
Germany	-6.10%	0.00%	0.00%	0.02%	-0.29%	-0.00%	-6.09%	1.93%	-0.00%	-0.05%	-0.00%	-1.62%	-0.00%
France	-5.60%	0.00%	0.00%	0.00%	-0.33%	-0.00%	-5.00%	0.20%	-0.16%	-0.05%	-0.00%	-0.25%	-0.01%
Austria	-5.00%	0.00%	0.00%	0.00%	-0.24%	-0.00%	-4.91%	0.88%	0.00%	-0.03%	-0.00%	-0.70%	-0.00%
Slovakia	-4.73%	0.00%	0.00%	0.00%	-0.17%	0.00%	-4.36%	0.07%	0.00%	0.03%	0.00%	-0.31%	0.00%
Slovenia	-4.42%	0.00%	0.00%	0.00%	-0.20%	0.00%	-4.23%	0.02%	0.00%	-0.12%	0.00%	0.11%	0.00%
Portugal	-4.41%	0.00%	0.00%	0.01%	-0.24%	-0.00%	-2.57%	-0.88%	-0.00%	-0.09%	-0.00%	-0.64%	0.00%
Greece	-4.34%	0.00%	0.00%	0.00%	-0.24%	-0.00%	-3.29%	-0.00%	0.00%	-0.07%	-0.00%	-0.74%	0.00%
Spain	-4.25%	0.00%	0.00%	0.00%	-0.06%	0.00%	-3.79%	-0.12%	-0.00%	-0.00%	-0.00%	-0.28%	-0.00%
Italy	-3.84%	0.00%	0.00%	0.00%	-0.20%	-0.00%	-5.28%	1.67%	0.00%	-0.01%	-0.00%	-0.02%	0.00%
Finland	-2.65%	0.00%	0.00%	0.00%	-0.17%	-0.03%	-2.15%	0.16%	-0.03%	-0.09%	-0.02%	-0.31%	-0.00%
Latvia	-1.83%	0.00%	0.00%	0.00%	-0.42%	0.00%	-1.27%	-0.00%	0.00%	-0.08%	0.00%	-0.06%	0.00%
Ireland	-1.74%	0.02%	0.00%	0.00%	-0.15%	-0.06%	-1.07%	-0.07%	-0.04%	-0.04%	-0.00%	-0.32%	-0.00%
Luxembourg	-1.61%	0.00%	0.00%	0.00%	-0.86%	-0.00%	-1.19%	0.73%	-0.06%	-0.04%	-0.03%	-0.01%	-0.13%
Lithuania	-1.49%	0.00%	0.00%	0.00%	-0.20%	0.00%	-0.72%	-0.01%	-0.01%	-0.35%	0.00%	-0.20%	0.00%
Bulgaria	-1.41%	0.00%	0.00%	-0.00%	-0.67%	-0.10%	-0.60%	0.01%	0.00%	-0.01%	0.00%	-0.04%	0.00%
Cyprus	-1.28%	0.00%	0.00%	-0.36%	-0.10%	0.00%	-1.01%	0.40%	0.00%	-0.02%	0.00%	-0.21%	0.00%
Malta	-0.97%	0.00%	0.00%	0.00%	-0.19%	-0.00%	-0.08%	0.00%	-0.62%	-0.03%	0.00%	-0.02%	-0.03%
Iceland	-0.63%	0.00%	0.00%	0.00%	-0.63%	-0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Denmark	-0.29%	0.00%	0.00%	0.00%	0.00%	0.00%	-6.25%	5.71%	0.00%	0.00%	0.00%	0.25%	0.00%
Liechtenstein	-0.18%	0.00%	0.00%	0.00%	-0.05%	-0.10%	-0.24%	0.00%	0.00%	-0.00%	0.00%	0.21%	0.00%
Norway	-0.13%	0.00%	0.00%	0.00%	-0.06%	-0.00%	-0.07%	0.00%	0.00%	-0.00%	-0.00%	-0.00%	0.00%
Croatia	-0.10%	0.00%	0.00%	0.00%	-0.05%	0.00%	0.00%	-0.04%	0.00%	-0.00%	0.00%	-0.00%	0.00%
Romania	-0.06%	0.00%	0.00%	0.00%	-0.02%	0.00%	-0.02%	-0.00%	-0.00%	-0.01%	0.00%	-0.01%	0.00%
Hungary	-0.05%	0.00%	0.00%	0.00%	0.00%	0.00%	-0.05%	0.00%	0.00%	0.00%	0.00%	-0.00%	0.00%
Poland	-0.05%	0.00%	0.00%	0.00%	-0.04%	-0.00%	0.00%	0.00%	0.00%	-0.00%	-0.00%	0.00%	-0.00%
Czech Republic	-0.01%	0.00%	0.00%	0.00%	-0.01%	0.00%	0.00%	0.00%	0.00%	-0.00%	0.00%	0.00%	0.00%
Sweden	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Estonia	1.16%	0.00%	0.00%	0.00%	-0.16%	0.00%	1.87%	0.00%	0.00%	-0.02%	0.00%	-0.54%	0.00%
Grand Total	-5.12%	0.00%	0.00%	0.00%	-0.25%	-0.01%	-4.83%	0.60%	-0.07%	-0.04%	-0.00%	-0.53%	-0.01%

4.8 USE OF TRANSITIONAL MEASURES

129. Table 8 shows the number of undertakings in the IBOR impact assessment using any of the transitional measures in place. From this it is clear that undertakings that use the TP transitional are affected the most by the IBOR transitions.

Use of Transitional Measures	Number of Undertakings	ΔSCR (in %pts)
No on technical provisions; No on risk-free rate	283	-4.79%
No on technical provisions; Yes on risk-free rate	3	-3.53%
Yes on technical provisions; No on risk-free rate	48	-16.90%
Total	**334**	**-6.15%**

130. The recalculation of the transitional deduction may mitigate the impact of the IBOR transitions on the amount of technical provisions. Where the IBOR transitions result in an increase of the technical provisions according to Solvency II, the recalculation may lead to an increase of the transitional deduction that partly compensates the increase of technical provisions.

131. Whether there is a mitigating effect depends on the national approach to the recalculation. NSAs usually allow for the recalculation every 24 months or in case of a material change of the risk profile or even expect such a recalculation every 24 months or annually. Whether the IBOR transitions would render a material change to an undertaking's risk profile is expected to be subject to a case-by-case assessment.

132. Finally, it should be noted that it is possible due to national specificities that technical provisions according to Solvency I are expected to increase due to recalculation. Such an increase of Solvency I technical provisions can outweigh the impact of the IBOR transitions on Solvency II technical provisions. As a consequence the recalculation of the transitional deduction would in this particular case not have a mitigating effect on the impact of the IBOR transitions.

5. ANNEX

5.1 CONSULTATION REPLIES

Comments received from the Consultation on IBOR transitions **Start date: 30 April 2021 – End Date: 26 July 2021** **Consultation paper published at: LINK - EIOPA/BoS-21-197**				
1. Do you agree with the overall approach of the immediate switch subject to the two preconditions?				
#	**Stakeholder name**	**Answer yes/no**	**Explanation**	**Processing**
1	Insurance and Reinsurance Stakeholder Group	Yes	We agree that the liquidity and proximity condition tests are appropriate. We suggest that caution be exercised in the timing of the switch and that, even where liquidity and proximity criteria are met, the timing of the ending of publication of IBOR curves be considered. In order to facilitate effective ALM, EIOPA could set a transition date on a provisional basis, and this date would be revised if the liquidity / proximity conditions were not met 3 months in advance. In the meantime, EIOPA could start:	Noted. The timing and the sequence of the transition will be announced timely. EIOPA will investigate also the possibility to publish the curves in advance. However, due to the nature of the LTAS, it will take a long time until the LTAS based on IBOR and OIS

			• Providing both curves so that stakeholders can measure the impact of the change, and • Estimating a LTAS based on the OIS curve to improve the visibility of the actors on the subject. The EIOPA decision tree could be amended as follows in the case IBOR curves have not stopped being published : To facilitate the process and help decide on the best approach for the transitions, we would advise to first assess if all OIS maturities all liquid. If yes, then the approach suggested by EIOPA would seem adequate. But if no, and if IBOR rates bear more liquid maturities, an impact assessment should be undertaken and the yield curve switch postponed.	will deviate significantly. We do not believe it would be helpful to estimate the new LTAS.
2	AMICE	Yes	GENERAL COMMENTS Our preference is to take an approach similar to that proposed by the PRA in CP1/21, where a fixed transition date is announced and any adverse balance sheet impacts are addressed via transitional measures. It would be useful to identify dates in the process around Euribor itself driven by the Benchmark regulator: • the cut-off date for EURIBOR (Index Cessation Effective Date) • a replacement rate and a Spread Adjustment Fixing Date EIOPA could therefore define a transition date on a provisional basis which would be subject to a review provided the liquidity / proximity conditions are not met for	N/A

			some months (e.g between 3 and 6 months) in advance of the switch date. During this transitional period, EIOPA could start providing both curves so that stakeholders can assess and measure the impact of the change and also estimate the LTAS based on the OIS curve in order to improve the visibility of the actors on the subject. Despite our preference for a fixed transition date, we broadly support the overall approach for an immediate switch as it is less complex to implement than the dynamic combination approach proposed by EIOPA in its discussion paper of February 2020. However, it is unclear when the preconditions would be met for most currencies (i.e USD dollar and Euro) given that the market liquidity is limited and the concern is that it will remain this way which prolongs the uncertainty associated with the IBOR transition and makes it difficult for firms to plan for the switch. Furthermore, the switch would have implications for insurance companies and add uncertainty in risk management and ALM processes in the first year of implementation. Insurers should therefore be allowed for a reasonable lead-time to adapt. A one-year lead-time seems reasonable for such a major change. Another concern for the insurance industry is that the two preconditions would result in a change of LLP which would be more disruptive in the long run. Also, the proximity precondition is a red herring for the following reasons:	

			1) The proximity condition is about interest rate changes that are being hedged whereas the transition cannot be hedged. 2) market conditions may now appear to be attractive but there is no reason why they will remain to be so. There is a need for a proper planning as the switch would have implications for insurance companies and more time to adapt will be required. Lastly, switching from a risk-free rate reference to another one should have no effect on the value of the insurance liabilities. However, according to the current formulation in EIOPA´s proposal, it is possible that insurance companies face an increase in the value of liabilities due to a drop of the discounting curve. Indeed, it should be born in mind that: (i) the new RFR curve based on OIS would be lower than the current RFR curve; (ii) the change of the risk-free rate benchmark does not only impact the risk-free curve but also the total discount curve including VA/MA. An initial assessment as to whether all OIS maturities are liquid would have to be conducted. However, if some IBOR rates bear more liquid maturities, an impact assessment would have to be undertaken as well as a postponing of the yield curve switch. The likely impact on the LLP is also an issue of concern. ANSWER TO Q1 We broadly agree with the proposed approach for an immediate switch as it is a significant improvement of the blended approach put forward by EIOPA in 2020. Despite the lack of clarity as to when the preconditions would be met for most currencies it is key for the industry to monitor the evolution of the market	

			parameters considered by EIOPA to calculate the transition triggers, in order to make the proper arrangements to anticipate an eventual switch and be prepared for it. Therefore, we strongly believe that the EIOPA calculations underlying the liquidity and proximity conditions should be fully transparent and replicable, so that the industry can monitor the process. To this end, we request EIOPA to publish all the data used to calculate the transition triggers for each currency. We also request EIOPA not to perform the switch at year-end in order to give the industry the appropriate time to adapt.	
3	Unipol Group	Yes	We support the overall approach of the immediate switch because we think that it is less complex to implement than the dynamic combination approach proposed by EIOPA in the "Discussion Paper on IBOR transitions" in February 2020. Nevertheless, we would like to stress the need for the industry to monitor the evolution of the market parameters considered by EIOPA to calculate the transition triggers, in order to anticipate the switch and be prepared for it. Therefore, we strongly believe that the calculations underlying the liquidity and proximity conditions made by EIOPA should be completely transparent and replicable, in order to allow the industry to monitor the process. To this end, we would like to propose to EIOPA to publish all the data used to calculate the transition triggers for each currency. Thus doing the industry would have the possibility to replicate the liquidity and proximity precondition assessment over time and would be able to make the proper arrangements to anticipate an eventual switch.	Noted – The intention is that the calculations of the liquidity and the proximity condition to become as transparent as possible and the announcement will take place in a timely manner. However to avoid confusion the calculations for the two conditions will have to take place centrally in EIOPA (especially the liquidity condition). EIOPA will investigate the possibility to publish the results to the industry on a regular basis via its website.

			Lastly, with the aim to give the industry the appropriate time to be prepared for the switch, we would strongly appreciate if EIOPA does not perform the switch at a quarter end.	For the GBP, CHF and JPY the intention is to perform the switch on January 2022 (February production).
4	Insurance Europe	Yes	Insurance Europe considers that the proposed immediate switch from IBOR-based to OIS-based term structures is a major improvement to the previously proposed blending approach. However, to ensure that the switch results in a smooth transition for the industry, Insurance Europe highlights a number of key issues relating to the switch that require further consideration prior to implementation of the proposed approach. 1. Mitigating the impact EIOPA should ensure full transparency about the potential impact of the IBOR transition. The aggregate results of its information request on the impact of the IBOR transitions should be made public to ensure that the impact can be appropriately taken into account in the 2020 review of Solvency II. 2. Mitigating the solvency volatility Insurance Europe is concerned that the preconditions proposed by EIOPA could result in temporary changes to the LLP or the underlying instrument (ie, swaps or government bonds) which would create solvency volatility as well as other operation and risk management challenges. Appropriate flexibility should be foreseen to avoid unnecessary solvency volatility by ensuring the stability of LLPs and the choice of instrument after the switch occurs.	Noted. As far as point (2) is concerned, it is very likely that the new OIS for the CHF and the JPY will not be liquid and DLT by the end of the year. Therefore we will proceed to the switch to government bonds for a minimum period of 12 months.

			3. Regular communication The development of market liquidity will be the primary driver of the timing of the switch. Regular communication from EIOPA on the DLT of all the RFR markets would help to prepare the industry for any change and would likely support a speedier adoption of new OIS-based curves. It would be helpful if EIOPA could produce a dashboard of liquidity indicators for the OIS swap markets, along with expected timelines (ie, target switch date/IBOR cessation dates). Also, disclosure of the exact quantities (eg, Refinitv/Bloomberg tickers incl. "value type") that are being monitored would be helpful. 4. Time for implementation EIOPA must provide sufficient time to implement the switch. Confirmation that a switch will be made should be no later than in the first month of a (new) quarter (ie, a minimum of two to three months' notice).	
5	GDV (Gesamtverband der Deutschen Versicherungswirtschaft, German Insurance Association)	Yes	We agree on the general approach.	Noted.
6	CRO Forum | CFO Forum	Yes	Yes, this is an improvement to the proposed blending approach which was too complicated. It will be necessary to properly and regularly update the industry to which extent both preconditions are fulfilled through frequent publications on data analysis. Despite our positive overall view on the suggested approach, from a more practical	Agreed

			angle we have some observations that we believe EIOPA should keep in mind when determining the details and/or practicalities of any actual switch. The change in the actual publication of the curve may be straightforward to take place from one day to the next, but ALM and the negative consequences of any basis risk (especially in published numbers) are equally important to manage. Therefore, — We would strongly appreciate that the switch is not happening at a quarter end and that EIOPA clarifies the exact timing/date for the currencies to be switched — Before a switch both curves (OIS / government bonds and IBOR) are published by EIOPA with all information needed to construct the curves (DLT, LLP, VA, tickers) It will be important that EIOPA allows companies sufficient time to prepare for a switch, strengthening further the need for transparency, early communication and a degree of flexibility on the pre-conditions with a sufficiently early clarity on when the switch will exactly happen. In addition, please take note in the subsequent questions of our more detailed analysis on the suggested pre-conditions.	
7	Institut des actuaires - France	Yes	Switching from one curve to another one can create market distortions. It's difficult to anticipate distortions impact without the results of the impact study. An impact on the reinsurance market should be considered. For EURO and USD, there is no date of transition. The publication of both methodologies for the curve construction could help insurers for the transition.	Noted. An impact study is included in this report. Currently there is no date set for the transition of the EUR and the USD. EIOPA is monitoring market developments for all currencies very closely.

			On June 8, CFTC recommended that the inter-dealer market start to implement "SOFR First" trading in interest derivatives on July 26, 2021 and to turned off USD LIBOR swaps screens on October 22, 2021. This action could strongly accelerate transition to SOFR and we could have a transition before the end of the year for USD. If it happen, both precondition could be reached and could have an impact on insurer balance sheet as soon as this year. Can we postpone to next year to be sure to have a smooth transition?	
8	Actuarial Association of Europe (AAE)	Yes	Yes, we do agree with the overall approach of the immediate switch subject to the two preconditions. We welcome the approach for its simplicity. We assume the liquidity and proximity condition appropriate to reduce the risk of instability and breaks in the RFR term structure. Switching from one curve to another one can create market distortions. It is difficult to anticipate the resulting impact without the results of the impact study. An impact on the reinsurance market should be considered (see also our answer to Q6). For EURO and USD, there is no date of transition. The publication of both methodologies for the curve construction could help insurers for the transition. On June 8, CFTC (Commodity Futures Transition Commission) recommended that the inter-dealer market start to implement "SOFR First" (SOFR= Secured Overnight	Agreed. For the USD and the EUR (no expiry date has been announced yet), EIOPA intends to give enough time for the undertakings to prepare through transparent and timely communication. For the moment the transition for these two currencies is postponed.

			Financing Rate) trading in interest derivatives on July 26, 2021 and to turn off USD LIBOR swaps screens on October 22, 2021. This action could strongly accelerate transition to SOFR and a transition before the end of the year for USD is possible. If it happens, both preconditions could be reached and could have an impact on insurers' balance sheet already this year. Insurers should have time to prepare for such a switch. In order to ensure a smooth transition one could think about postponing such a switch to the next year.	

2. Do you agree with the way the 'liquidity' condition is defined?				
#	**Stakeholder name**	**Answer yes/no**	**Explanation**	**Processing**
1.	Insurance and Reinsurance Stakeholder Group	Yes	N/A	N/A
2.	AMICE	No	We welcome the adoption of a "liquidity condition" as a trigger for the switch to ensure that the OIS market is sufficiently liquid in order to build a robust curve. However, we do not fully agree with the way the "liquidity condition" is defined. Instead, we request EIOPA to provide the code of each swap used to assess the liquidity condition, because we think	The comment has been taken into account to the extent possible. The liquidity and the DLT-

			that it could be useful for the industry to perform its own calculation and to anticipate if and when the condition would be met. The definition of "total volume" is also vague and should be clarified, i.e. which terms does it include; is it based on 3M LIBOR swaps or 6M LIBOR swaps? Additionally, the liquidity changes over time. Reaching the 50% threshold should not only be for one month but rather a trend that it is monitored before the change is made. Defining a time span when this condition would have to be met if there is no end-date for the IBOR curve would be useful. In any case, the "liquidity condition" would have to be met not only at a single point in time but also over the whole risk-free curve.	ness of each tenor can be found in the section 5.2. The tickers of the curves have also been provided. On the question on which LIBOR is used (3M or 6M) it has to be added that this is currency specific. This information can be found in the published technical documentation.
3.	Unipol Group	No	We welcome the adoption of a liquidity condition as a trigger for the switch, to ensure that the OIS market is sufficiently liquid in order to build a robust curve. However, we do not fully agree with the way the "liquidity" condition is defined. Instead, we would like EIOPA to provide the code of each swap used to assess the liquidity condition, because we believe that it could be useful for the industry to perform its own calculation and to anticipate if and when the condition would be met.	Agreed. The comment was taken into account. Tickers have also been provided. However liquidity is better monitored through information available through trade repositories and this information can be

				accessible only through EIOPA.
4.	Insurance Europe	No	Insurance Europe is concerned that the liquidity precondition could result in changes to the LLP or to the choice of instrument that would only be of a temporary nature and that could therefore result in significant solvency volatility across the industry, as well as creating operational and risk management challenges for the industry. To avoid undue volatility in the LLP or temporary changes of instrument, the liquidity precondition should be refined to adequately address these potential issues. For example, EIOPA could alter the criterion so that instead of considering overall trade volume, it concentrates on those maturities that are most important for the valuation of the technical provisions of European insurers. It would also be helpful if EIOPA could clarify how it will assess the liquidity condition in conjunction with changes to the LLP (in particular for the Euro where a 20-year LLP is foreseen in recital 30 of the Omnibus II Directive). While a 50% threshold on the traded volume of OIS swaps appears to be a sensible precondition if an immediate switch is to be carried out, it is not clear how the precondition could impact the LLP and/or the choice of instrument on a temporary or permanent basis. Traded volume is typically higher at shorter maturities. This could mean that the 50% threshold is reached but with a different LLP (eg, as is currently expected to be the case for	Noted. The LLP for the euro is discussed within the 2020 Review. It has to be said that at this stage we do not propose the switch for the euro so no change is proposed for the LLP. We agree that the liquidity per tenor should be also looked in order to ensure that the new curve has a good fit.

			GBP). Therefore, this approach might ignore the importance of having liquidity across the curve, and notably the longer end. However, it seems reasonable to assume that the market liquidity of OIS-based swaps will quickly increase as the final cessation date of IBOR-based swaps approaches, if one is agreed (eg for GBP-LIBOR and SONIA). Finally, it is worth highlighting that the liquidity of the OIS markets will not only impact the LLP/choice of instrument but could also constrain the ability of insurers to hedge their long-term exposures.	
5.	GDV (Gesamtverband der Deutschen Versicherungswirtschaft, German Insurance Association)	No	With a liquidity criterion based on overall trade volume, there is the risk that liquidity in short-term maturities will be significantly higher than for long-term maturities, meaning that the criterion could be fulfilled without long-term liquidity being high enough. This might cause problems for undertakings with long-term liabilities. We suggest creating a criterion that, instead of considering overall trade volume, concentrates on those maturities that are most important for the valuation of technical provisions of European insurers.	EIOPA agrees with the comment.
6.	CRO Forum | CFO Forum	No	Using a liquidity approach in principle is a good approach, especially for currencies where there exists no hard deadline for the IBOR discontinuation, but there are some caveats we would like to highlight on the details of such a pre-condition. Furthermore, for the currencies CHF and JPY we strongly believe that the liquidity condition should not be used to force a temporary move to sovereign rates as the liquidity of the OIS is expected to sharply increase once the IBOR is discontinued. Just assessing total liquidity on the new IBOR rates will ignore the importance to have	Noted. However, if LIBORs cease to exist by the end of the year EIOPA would need to have a solution ready in order to be able to produce the RFR term structures. The

			liquidity across the curve, and notably the longer end. It will not be sufficient to only have very strong liquidity at the short end of the curve, therefore a total volume approach may not work sufficiently. Hence an approach that deals with this adequately should be considered. This will also be relevant in light of the DLT assessment and LLP. In addition, the definition of the total volume is vague and should be further clarified, while actually a more risk-based approach may be followed if feasible. In any case, full clarity on the data used by EIOPA is required (e.g. Refinitiv/Bloomberg tickers incl. 'value type').	definition of total volume has been further refined in section 3 of the report. In addition to this we have included the tickers used.
7.	Institut des actuaires - France	Yes	We agree with the general purpose but a differentiation between currencies should be introduced for the threshold level. If the trading volume is increasing on JPY and CHF currencies and this is closed to 50%, this could be considered sufficient.	Noted. The volumes for the JPY and the CHF have marginally increased but it is not enough to ensure a stable transition. Therefore we propose to change to government bonds.
8.	Actuarial Association of Europe (AAE)	Yes	Yes, we do agree with the way the 'liquidity'condition is defined. With regard 2.12: It would be interesting to explore why the CHF and JPY swap volumes are currently so low although IBOR curves are ceasing by the end of 2021. One reason could be that the market is planning to switch essentially overnight (e.g. towards end of December). In this case, it might not be adequate to focus on the observed liquidity in OIS swaps shortly before the transition date. To the extent that OIS swaps shortly after the	For the CHF and the JPY the volumes observed so far are very low. However EIOPA would need to have a solution ready by the end of 2021. The increase in

			transition date were reasonably predictable an adaptation of the "liquidity" criterion could be considered in order to take into account this expected liquidity. Thus one should consider a differentiation between currencies with regard to the threshold level. If the trading volume is increasing on JPY and CHF currencies a level close to 50% could be considered sufficient. For clarification: According to 2.10, EIOPA is well aware of the fact that under the current circumstances and market standards it can be expected for EUR and the USD (To consider: recent recommendations of CFTC concerning USD see answer to Q1) to take some time (years) until the liquidity condition is met. A necessary prerequisite for a switch should be the compliance with the 'liquidity' condition.	the volumes would need to be robust and EIOPA cannot wait until the last moment to see in which instrument they will switch to. EIOPA believes that the solution for the government bonds will provide stability against the market uncertainty. The EUR and the USD no date of transition is proposed.

3. Do you agree with the way the 'proximity' condition is defined?				
#	**Stakeholder name**	**Answer yes/no**	**Explanation**	**Processing**
1.	Insurance and Reinsurance Stakeholder Group	Yes	N/A	N/A

2.	AMICE	No	See our previous comments regarding the proximity condition. We do not support the 'proximity' condition as it seems to leave the transition to chance; there appears to be no backup plan should the proximity condition not be met. Our preference is that any adverse balance sheet impacts are addressed via transitional measures. EIOPA's proposal requires to compare the difference between the IBOR and the OIS curves with the average interquartile range of month-to-month changes of the current RFR curve. If the difference between the two curves is smaller than the monthly variations, which already is the case using the current RFR curve observations, the switch would be performed. EIOPA provides clarification on the calculation of the average interquartile range in the EIOPA´s document "Technical specification IBOR transitions information request 2021", however some doubts remain about the calculation of the difference between the IBOR and the OIS curves for which no details are provided. Further clarification is therefore needed on: - the historical depth of the data considered to calculate such difference: it is not clear whether the difference should be calculated only for one day or as an historical average of past observations and, in this case, how long the historical series should be; - the frequency to perform the calculation: it is not clear whether the calculation should be performed each day of the month or only once (or twice, three times…) a month. Further clarification is also needed as to how the 'three consecutive months' requirement – applied only for currencies which have no end-date for IBOR curve – is defined; we query if a single daily point outside the interquartile range would reset the proximity condition.	The proximity condition does not leave the transition to chance. It acts as an additional barrier to ensure stability in the transition for the currencies were there is still a high level of uncertainty. In the technical specification document (Annex) the values chosen for the three currencies are based on the interquartile ranges based on all available RFR curves published by EIOPA since the introduction of SII. The scenario was further adjusted based on the difference of the curves on the 31/03/2021. Further

				clarifications can be found in section 3 of the report.
3.	Unipol Group	No	We support the introduction of the proximity condition because we believe that it could help to reduce the impact of the switch for insurance companies as much as possible. Nevertheless, we think that some clarifications about the calculation are necessary in order to ensure a high level of transparency on the condition assessment conducted by EIOPA. EIOPA proposal requires to compare the difference between the IBOR and the OIS curves with the average interquartile range of month-to-month changes of the current RFR curve. If the difference of the two curves is smaller than the monthly variations, which already exist using the current RFR curve observations, the switch would be performed. EIOPA provides clarification on the calculation of the average interquartile range in the "Technical specification IBOR transitions information request 2021", but some doubts remain about the calculation of the difference between the IBOR and the OIS curves, for which no details are provided. Therefore, we would like EIOPA to clarify: - the historical depth of the data considered to calculate such difference: it is not clear whether the difference should be calculated only for one day or as an historical average of past observations and, in this case, how long the historical series should be; - the frequency to perform the calculation: it is not clear whether the calculation should be performed on each day of the month or only once (twice, three times…) a month. Also, we would like EIOPA to provide more details on how exactly the 'three consecutive months' requirement – applied only for currencies which have no end-date for IBOR curve – is	Noted. Further details are provided in section 3 of the report.

			defined and we question if a single daily point outside the interquartile range would reset the proximity condition.	
4.	Insurance Europe	No	While it is desirable that the deviation between the OIS-IBOR curves is minimal when the transition is carried out, it is not clear that the proximity precondition would achieve its objective of mitigating against a potentially significant balance-sheet impact. Monthly changes in the RFR curve will affect both liability valuation and the value of the hedging assets. Switching to OIS-based swaps will only affect the value of the liabilities. Therefore, even if the deviation of the IBOR vs OIS curves is of a similar level to the average monthly changes, it will have a greater balance-sheet impact than the monthly changes. As noted in response to Q2, experience to date suggests that the liquidity of the OIS swap market will increase at the shortest tenors first, which suggests that EIOPA's liquidity precondition could therefore result in a (temporary) change in the LLP (as is currently the case for GBP, USD and CHF). Insurance Europe considers the proximity criterion to be a very important to ensure a smooth transition and to ensure that there are no direct negative effects from the switch. In order to guarantee this, it proposes to add the additional condition that the absolute difference between the two curves should not exceed a certain level (for example, somewhere between 2 and 5 basis points). Moreover, there appears to be no back-up plan should the proximity condition fall outside its boundary again. Any adverse balance-sheet impact may be better addressed via transitional measures to smooth such undesired impacts over time.	Noted. Further details are provided in section 3 of the report. The CRA is taken into account in the calculation of the difference. The number is calculated as the average of all differences up to the LLP (Please refer to section 3 of the report). Observed monthly volatility is based on the standard deviation of the monthly rates up to the LLP from all published curves since the introduction of SII.

			In addition, some important details are still unclear: Is it the difference between EURIBOR swap rates and OIS swap rates that is being compared (not taking into account the CRA), or is the CRA subtracted from the EURIBOR swap rates first? How is the "difference of the two curves" being calculated? As the average of the differences for each tenor from 1 to 50 years? What is meant by "observed monthly volatility of rates"? Is it measured as the standard deviation of monthly return? And if so, over which period of time? For which maturities does the proximity condition need to be fulfilled? It is not clear how the proximity precondition is applied when there is a change in the LLP. Any change in the LLP could have a significant impact on the value of liabilities.	We do not want to be very strict on the exact maturities. This is something we want to remain flexible. However, we believe it has to be defined as "the majority of the tenors, including the new LLP and the First liquid point". What is important is that the new curve is a good 'fit' to the old one over all tenors considered.
5.	GDV (Gesamtverband der Deutschen Versicherungswirtschaft, German Insurance Association)	No	We believe that the proximity criterion is very important to ensure a smooth transition and no direct negative effects from the switch. In order to guarantee this, we propose to add the additional condition that the absolute difference between the two curves should not exceed a certain level (for example, somewhere between 2 and 5 basis points). Also, while we do not oppose the general idea of the proposal, we think that some important details are still unclear: • Is it the difference between EURIBOR swap rates and IBOR swap rates that is being	Noted. Further details are provided in section 3 of the report. Please note that the CRA is not taken into account in the

			compared (not taking into account the CRA), or is the CRA subtracted from the EURIBOR swap rates first? • How is the "difference of the two curves" being calculated? As the average of the differences for each tenor from 1 to 50 years? • Also, it remains unclear what is meant by "observed monthly volatility of rates" Is this measured by the standard deviation of monthly returns? Over which period of time? • For which maturities does the proximity condition need to be fulfilled?	calculation of the difference. The number is calculated as the average of all differences up to the LLP. Observed monthly volatility is based on the standard deviation of the monthly rates up to the LLP from all published curves since the introduction of SII. We do not want to be very strict on the exact maturities. This is something we want to remain flexible. However, we believe it has to be defined as "the majority of the tenors, including the new LLP and the First liquid point". What is

				important is that the new curve is a good 'fit' to the old one over all tenors considered.
6.	CRO Forum | CFO Forum	No	The intention and practical impact of this specific pre-condition raise some questions and concerns. First, we believe that the proximity condition should not block a transition to OIS once the OIS has become the dominant market rate with high trading volumes (taking into account our observations under Q2). Also, we miss clarity on how exactly the 'three consecutive months' condition is defined and question if a single daily point outside the interquartile range would reset the proximity condition (would not be desirable). We question if the proximity condition actually works as intended to avoid strong impacts due to a switch, and actually this seems rather a tool to justify actual impacts within an arbitrary range. We note that a significant impact may occur, especially when considering the interquartile ranges for each currency. A difficulty in the assessment also exists in the fact the LLP may change from the old to the new curve for some currencies. Overall, it is important to recognize that changes in interest rates generally will be hedged, but the transition cannot be hedged. Overall, the 'proximity' pre-condition seems to leave the transition to chance and there appears to be no backup plan should the proximity condition not be met or fall outside its	Noted. Further details are provided in section 3 of the report.

			boundary on the odd occasion. Any adverse balance sheet impacts may be better addressed via transitional measures to smooth such undesired impact over time.	
7.	Institut des actuaires - France	Yes	Yes however more flexible conditions on currencies which will see their instruments disappear should be considered. IBOR curves for GBP, JPY and CHF currencies will disappear. Once we have switched on governmental curves for those currencies, how should the 'proximity' condition be considered ?	Noted. The proximity condition will not be applied when switching back to OIS swaps.
8.	Actuarial Association of Europe (AAE)	Yes	Yes, basically we do agree with the way the 'proximity' condition is defined. The considered proximity criteria are assessed globally over the whole term structure giving the same weight to the different maturities. However some maturities might be more or less important depending on the bulk of liability CF of EU undertakings. The proximity concept of the rates could be enriched with a proximity on the liabilities calculated at the risk-free rates. Appropriate ranges could then be defined. If adequate, an intermediate approach could be the use of the concept of modified duration to assess whether some maturities would require a closer follow up on the proximity criteria. Further to consider: IBOR curves for GBP, JPY and CHF currencies will disappear. Once a switch on governmental curves for those currencies has incurred, it is unclear how the 'proximity' condition should be considered.	Noted. The proximity condition will not be applied when switching back to OIS swaps.

4. Do you believe the 'proximity' condition has to be met for three consecutive months or a shorter period would be sufficient?				
#	**Stakeholder name**	**Answer yes/no**	**Explanation**	**Processing**
1.	Insurance and Reinsurance Stakeholder Group	Yes	We believe that the period proposed is appropriate.	Noted
2.	AMICE	No	There is a lack of clarity as to what the "three consecutive months" mean. We believe that at least 3 months should be necessary (maybe even more than 3) in order to ensure that the tendency of the IBOR curve and OIS curve getting closer is not just temporary but rather a stable market convergence.	The definition of the three consecutive months is further clarified on section 3 of this report.
3.	Unipol Group	Yes	We believe that at least 3 consecutive months should be necessary (maybe even more than 3), in order to ensure that the tendency of the IBOR curve and OIS curve getting closer is not just temporary, but it is a stable market convergence.	Noted
4.	Insurance Europe	No	The proximity precondition should ideally be satisfied for a minimum of three consecutive months (and potentially even longer). However, it is recognised that this may not be achievable if liquidity in the OIS market does not increase until near the cessation of the IBOR rates. Please also see response to Q5 on the need for sufficient implementation time.	Noted

5.	GDV (Gesamtverband der Deutschen Versicherungswirtschaft, German Insurance Association)	Yes	Using a period of three months appears sufficient.	Noted
6.	CRO Forum | CFO Forum	No	As noted in Q3 this pre-condition should not be blocking if liquidity has sufficiently developed and a single daily point outside the interquartile range should not reset the proximity condition. In addition, it will be important to have clarity on an upcoming switch (and as noted not at a quarter or year-end) at an early stage with sufficient time of insurers to prepare for it. This includes data analysis and the Refinitiv tickers for the input data and LLP information as early as possible. Overall, we do not believe the proximity condition, even if met for 3 consecutive months or more addresses sufficiently the risk of undesired negative impacts on insurer's solvency positions due to this technical switch to OIS curves.	Agreed. However the impact of the switch and the 'fit' of the new curve needs also to be taken into account. Ideally both preconditions would need to be satisfied with the liquidity precondition going first.
7.	Institut des actuaires - France	Yes	We agree with the three consecutive months. How long have insurers to switch on the new curve after this condition is met? How can they prepare themselves?	The decision will be communicated via the EIOPA website. Enough time will be provided for implementation.

8.	Actuarial Association of Europe (AAE)	Yes	A reasonable balance has to be found on the timing for implementation. The 'proximity' condition should be met for a period of three consecutive months. Less than 3 months might be insufficient for undertakings to anticipate the impacts on their liabilities and ALM strategies. A too long deferral of OIS term structures should also be avoided especially if IBOR rates become illiquid. A backstop could be foreseen if the "3 consecutive months proximity" condition leads to undesirable consequences over time. Insurers should have enough time for switch on the new curve after this condition is met. They should have the opportunity to prepare themselves. For practicality reasons it might be worthwhile to examine whether a change should take place shortly before the end of the year (balance sheet period) or whether the change should take place e.g. in the first three quarters of the year.	Noted.

5. Do you think there is another condition EIOPA would need to consider for the immediate switch to the new OIS term structures?				
#	**Stakeholder name**	**Answer yes/no**	**Explanation**	**Processing**
1.	Insurance and Reinsurance Stakeholder Group	No	The risk of not finding a way to make the transition before any deadline should be avoided. The possibility of ending up using government bond rates as the benchmark might be the scenario which brings the biggest uncertainties.	Noted.

2.	AMICE	No	N/A	Noted.
3.	Unipol Group	No	No opinion.	Noted.
4.	Insurance Europe	Yes	If/when the switch happens, insurers need sufficient time to implement it. The actual confirmation that a switch will be made should be no later than in the first month of a (new) quarter (so a minimum of two to three months' notice). The switch should also not be made at the end of the quarter to allow insurers time to embed any process changes before quarterly reporting. If a local regulator (third country or other) switches for local supervision purposes, this may lead to volatility in the IBOR rates which could result in the proximity condition never being met, while the new OIS rates are essentially the standard rate. In light of the above, EIOPA could also consider dropping the proximity precondition if a higher amount of market liquidity is achieved, such as 80% of the traded volume across the majority of currently liquid tenors. Impact on 2020 review of Solvency II Should the IBOR transition result in a change in LLP, this could have a secondary impact on EIOPA's proposed changes to the extrapolation methodology. If the alternative extrapolation methodology does replace the Smith-Wilson methodology, EIOPA should explain how the IBOR transition will impact the RFR curves under the new methodology.	Noted.

5.	GDV (Gesamtverband der Deutschen Versicherungswirtschaft, German Insurance Association)	Yes	We would suggest introducing a monthly monitoring that shows in a transparent way the current status of each criterion. This could be added to the monthly technical information on the RFR. Additionally, undertakings should be allowed enough time to prepare for the switch. We suggest a three-month delay for the introduction of the new curve after the two criteria have been reached.	Noted.
6.	CRO Forum | CFO Forum	No	No, we do not believe other conditions will be necessary. We would like to repeat on the already proposed conditions that the proximity condition should not block a transition to OIS once the OIS has become the dominant market rate with high trading volumes (taking into account our observations under Q2).	Noted.
7.	Institut des actuaires - France	Yes	The 'proximity' condition should be met for maturities after the LLP even considering the review of S2. The review of the standard formula and the revision of interest rates should be considered in parallel. UK FCA published on March 5th, 2021 some spread adjustment for fallback that could be applicable at the end of IBOR. Did you look to them to adjust some rates on RFR ? https://assets.bbhub.io/professional/sites/10/IBOR-Fallbacks-LIBOR-Cessation_Announcement_20210305.pdf	Noted.

8.	Actuarial Association of Europe (AAE)	No	No, we do not think that EIOPA should consider further conditions. The 'proximity' condition should be met for maturities after the LLP even considering the review of S2.The review of the standard formula and the revision of interest rates should be considered in parallel. UK FCA published on March 5, 2021 some spread adjustment for fallback that could be applicable at the end of IBOR. Does EIOPA also consider similar adjustments of some rates on RFR? https://assets.bbhub.io/professional/sites/10/IBOR-Fallbacks-LIBOR-Cessation_Announcement_20210305.pdf"	Noted.

6. Do you believe that the foreseen changes in the RFR methodology due to IBOR transitions and the method of switching the underlying instruments (depending on the proximity and liquidity condition) could have an impact on the market rates itself, and if so, with what impact and how might this be mitigated?

#	Stakeholder name	Answer yes/no	Explanation	Processing
1.	Insurance and Reinsurance Stakeholder Group	No	N/A	Noted.

2.	AMICE	Yes	We believe that the change in the RFR methodology due to IBOR transitions proposed by EIOPA is likely to cause some impacts on the financial markets. In particular, it should be borne in mind that companies that have long-term liabilities generally use derivatives for hedging against the risks arising from the change in the discounting curve. Given that the substitution of IBOR swaps with OIS for the construction of RFR curve changes the risks to which insurance companies are exposed to in the discounting of liabilities, insurers would enter in different type of derivatives for hedging against those risks. Therefore, we expect an increase of liquidity in derivatives related to overnight interest rates for hedging purposes. For the Euro currency, a switch to ESTR-swaps will likely cause an increased demand for ESTR-swaps which will lower their yield. This impact could be mitigated provided there is a longer lead-time.	Noted.
3.	Unipol Group	Yes	We believe that the change in the RFR methodology due to IBOR transitions proposed by EIOPA is likely to cause some impacts on the financial markets. In particular, it should be borne in mind that companies that have long-term liabilities generally use derivatives for hedging against the risks arising from the change in the discounting curve. Given that the substitution of IBOR swaps with OIS for the construction of RFR curve changes the risks to which companies are exposed in the discounting of liabilities, companies should have to enter in different type of derivatives for hedging against those risks. Therefore, we expect an increase of liquidity in derivatives related to overnight interest rates for hedging purposes.	Noted.
4.	Insurance Europe	Yes	Higher liquidity should be expected as soon as the switch has taken place, as demand for hedging instruments will increase, particularly at the long end of the curve.	Noted.

5.	GDV (Gesamtverband der Deutschen Versicherungswirtschaft, German Insurance Association)	Yes	Higher liquidity should be expected as soon as the switch has taken place, as demand for hedging instruments will increase, particularly at the long end of the curve.	Noted.
6.	CRO Forum | CFO Forum	Yes	It is important to reiterate the observation made on Q1 that a change in the actual publication of the risk-free rate curve may be straightforward to take place from one day to the next, but adapting the ALM/hedge to a new benchmark takes time. In this process basis risk will exist to a certain degree and the time of the switch will be important in this respect. As soon as EIOPA makes the switch to a new benchmark rate for the RFR, it is likely insurers will experience additional pressure to adapt the ALM (to the extend it did not yet occur) in a relatively short period of time, which may not be possible or with (significant) negative impact on pricing. Providing sufficient insight by EIOPA on the progress of the liquidity parameter over time and an early heads up on a (likely) switch date will help to relieve this pressure to a certain extent. Additionally, the exact switch date should be chosen carefully to avoid a switch around year or quarter end or any other important dates for e.g. bond and swap markets.	Noted.
7.	Institut des actuaires - France	Yes	We believe there is an impact on trade volumes because insurers would protect themselves with derivative products based on this CDT. This increases liquidity.	Noted.

8.	Actuarial Association of Europe (AAE)	Yes	We think there is an impact on trade volumes because insurers would protect themselves with derivative products based on this CDT. This increases liquidity. Such an impact on market rates and the quantification can hardly be assessed reliably. In general an increasing demand to receive the fixed leg and pay the floating leg will put some pressure on the rates. If the transition takes place if both preconditions are fulfilled, a gradual switch could in general take place without mayor impacts. However, if insurance companies increased the amount of swaps in a very short time period after the transition the rates could experience some pressure. A fast decreasing liquidity in the IBOR market could affect the value of swaps in place as well. Finally a sudden increase in the spreads between IBOR and OIS (e.g. 6m EURIBOR and €STR) would obviously influence all term structures.	Noted.

7. Do you agree with the overall approach regarding the CRA?				
#	**Stakeholder name**	**Answer yes/no**	**Explanation**	**Processing**
1.	Insurance and Reinsurance Stakeholder Group	Yes	The CRA should be allowed to drop to zero or near to zero if the market pricing indicates so. CRA has been very low for a number of years which reflects the low risk level inherent in the market. Also new legislation, e.g. EMIR, has further decreased the possible credit risk here.	Agreed

2.	AMICE	Yes	We support EIOPA´s proposal of removing the CRA for OIS based term structures, because the OIS rates are essentially risk-free and they do not reflect credit risk; therefore, for these term structures the credit risk adjustment is no longer needed.	Agreed
3.	Unipol Group	Yes	We support EIOPA proposal of removing the CRA for OIS based term structures, because the OIS rates are essentially risk-free and they do not reflect credit risk; therefore, for these term structures the credit risk adjustment is no longer needed.	Agreed
4.	Insurance Europe	Yes	Insurance Europe agrees that there should be no CRA for OIS swaps. However, it does not agree that the CRA should be applied to RFR curves where the underlying instrument is government bonds. Article 45 of the Delegated Regulation, which sets out the calculation methodology for the CRA, solely refers to swap rates. Adjusting government bond rates to account for the difference between OIS swap rates and IBOR rates would result in artificially lower curves and makes no economic sense.	Agreed on the first part. However, EIOPA does believe that the government bonds ember credit risk and that the CRA would need to be applied. Article 45 sets the out the calculation for swaps. The calculation of the CRA for government bonds is set out in the technical documentation published in EIOPA's website.
5.	GDV (Gesamtverband	Yes	Yes, removing the CRA appears justified for the reasons mentioned in the paper.	Agreed

	der Deutschen Versicherungswirtschaft, German Insurance Association)			
6.	CRO Forum | CFO Forum	Yes	We are supportive of removing the CRA for OIS based term structures. As an additional observation, for currencies where a switch to sovereign rate curves is envisaged we do not believe a CRA should be applied if sovereign spreads are negative (e.g. in the case of CHF) and therefore a further reduction by the CRA does not make sense in our view.	Noted.
7.	Institut des actuaires - France	Yes	We are waiting for the modelling recommendations for the CRA methodology to use on yield curves based on government bonds.	The way CRA is derived for government bond curves is set out in the RFR technical documentation published in EIOPA's website.
8.	Actuarial Association of Europe (AAE)	Yes	Yes, we do agree with the overall approach regarding the CRA.	Agreed

8. Is there any alternative option you believe EIOPA would need to consider regarding the treatment of the CRA?				
#	**Stakeholder name**	**Answer yes/no**	**Explanation**	**Processing**
1.	Insurance and Reinsurance Stakeholder Group	No	N/A	N/A
2.	AMICE	Yes	We support the removal of the CRA for OIS based term structures.	Agreed
3.	Unipol Group	No	No opinion.	N/A
4.	Insurance Europe	Yes	Insurance Europe agrees with EIOPA's assessment that Article 45 of the Delegated Regulation which clarifies the application of the CRA implies that the floating rate is supposed to be a term (ie non- overnight) swap rate, meaning that after the transition to OIS rates, this condition is no longer fulfilled and thus it is legally possible not to apply the CRA to OIS-based term structures. However, it would provide additional certainty if the European Commission made a public statement that it agrees with this interpretation of the Delegated Regulation.	Noted.
5.	GDV (Gesamtverband der Deutschen Versicherungswi	Yes	From our legal assessment, we agree that the respective Article clarifying the application of the CRA (45) implies that the floating rate is supposed to be a non-overnight indexed swap, meaning that after the transition to €STR (€STR being an overnight swap) this condition is	Noted.

	rtschaft, German Insurance Association)		not fulfilled anymore and thus, it is possible to drop the CRA. It could provide some certainty to have an explicit statement by the Commission confirming this assessment.	
6.	CRO Forum | CFO Forum	No	No, since EIOPA is not considering the possibility of an uplift of OIS rates as per our earlier advice. We would though reiterate our view that this technical change should not result in a change in the value of technical provisions, in the same way that if one switches from using Celsius to Fahrenheit, the actual temperature does not change.	Noted.
7.	Institut des actuaires - France	No	The calculation of the CRA is based on the EONIA, which is now calculated on the €STR. Once the EONIA has disappeared, how should the calculation of the CRA evolve?	Once EONIA disappears, we have to switch to ESTR instead of EONIA for the euro calculation.
8.	Actuarial Association of Europe (AAE)	No	No, we do not believe that there is an alternative option EIOPA has to consider regarding the treatment of the CRA as soon as the switch to €STR is realised.	Noted

9. Would you have a view on how to treat the CRA for those currencies for which the CRA is currently being derived from either the CRA for the EUR or the CRA for the USD?				
#	**Stakeholder name**	**Answer yes/no**	**Explanation**	**Processing**

1.	Insurance and Reinsurance Stakeholder Group	No	N/A	Noted
2.	AMICE	No	N/A	Noted
3.	Unipol Group	No	No opinion.	Noted
4.	Insurance Europe	No	Insurance Europe does not currently have any conclusive views but suggests that ISDA fallback rates could potentially be used to supplement the calculations of CRAs, which are reliant on Euro data. Another possibility could be to derive the CRA from the rating of the country.	Noted
5.	GDV (Gesamtverband der Deutschen Versicherungswirtschaft, German Insurance Association)	No	We do not have a view on this.	Noted
6.	CRO Forum | CFO Forum	No	No view. As noted already, for currencies where a switch to sovereign rate curves is envisaged we do	Noted

			not believe a CRA should be applied if sovereign spreads are negative (e.g. in the case of CHF) and therefore a further reduction by the CRA does not make sense in our view.	
7.	Institut des actuaires - France	No	We do not have a view on how to treat the CRA for those currencies for which the CRA is currently being derived from either the CRA for the EUR or the CRA for the USD.	Noted
8.	Actuarial Association of Europe (AAE)	No	Currently we do not have a view on how to treat the CRA for those currencies for which the CRA is currently being derived from either the CRA for the EUR or the CRA for the USD. We agree with 3.4. that this can be addressed at a later stage.	Noted

10. What is your opinion about the proposed changes in the LLPs and the use of government bonds for the JPY and CHF? Please explain.			
#	**Stakeholder name**	**Reply**	**Processing**
1.	Insurance and Reinsurance Stakeholder Group	EIOPA is proposing changes for some currencies. We believe that no immediate decision should be made to change the current LLP, e.g. to reduce the LLP as proposed for GBP to 30 years from 50 years. A twelve month waiting period before assessing the need for any change based on the depth and liquidity in the market would seem sensible. This is important as this will otherwise impact company ALM, risk management and hedging policies.	Noted.
2.	AMICE	The changes to the LLPs for GBP and USD are significant. We question whether this is a premature decision as the OIS swap market is still building up liquidity and the 50 yr LLP could become more liquid in the near future.	Noted.

		A back and forward switch would be very difficult to hedge (e.g switch to government bonds and back to swaps once the market becomes liquid again) and it would have an impact on the risk management of companies. Companies aim at hedging on an economic basis rather than for solvency II purposes. Furthermore, EIOPA has confirmed that the impact assessment only looks at the impact on the SCR but not further impacts are being looked at (i.e ALM or risk management). As a result, the impact of the switch may be overlooked. In order to avoid this situation, we suggest that EIOPA either delays any changes to the LLP for 12 months after the introduction of the new OIS based Solvency II risk free curves or applies a qualitative overlay that considers how liquidity may change in future years.	
3.	Unipol Group	No opinion.	N/A
4.	Insurance Europe	As noted in response to Q2, Insurance Europe does not support an approach that would create undue volatility arising from temporary changes in the LLP or the choice of underlying instrument. Where there is a reasonable level of existing liquidity and clear evidence of increasing liquidity in the OIS market, it may be preferable under a temporary, forward-looking assessment of liquidity to stabilise the LLP and to adopt OIS-based term structures rather than change to government bond rates. Regarding the changes outlined in the consultation paper, Insurance Europe notes that the changes outlined in the paper could change over the coming months as OIS swap liquidity is expected to increase as IBOR swaps are phased out. Observations on each of the specific currencies mentioned are outlined below.	Noted.

		GBP — The PRA's adoption of SONIA-based term structures with an LLP of 50 years from 31 July could drive liquidity of the longer end of the GBP curve. USD — A 30-year LLP is reasonable. This is consistent with EIOPA's assessment of the LLP for the IBOR-USD produced for its Opinion on the 2020 review of Solvency II. CHF — The ISDA-Clarus RFR Adoption Indicator for CHF shows a significant increase in derivatives trading activity conducted in OIS risk-free rates, being at the moment significantly more liquid (currently over 15%) than other economies. Also, as CHF LIBOR will cease to be produced from YE2021, it is reasonable to expect trading volumes of OIS swaps to increase in the subsequent months (as seen in April 2021 and May 2021). Adopting SARON-based RFR curves could therefore be preferable to switching to CHF government bond curves. JPY — Similarly, a temporary move to government rates should be avoided, since this could lead to huge unnecessarily volatility in the solvency ratio of the entities concerned.	
5.	GDV (Gesamtverband der Deutschen Versicherungswirtschaft, German Insurance Association)	EIOPA has estimated the impact on the LLP for the GBP, USD, JPY and CHF. It would be good to have an estimation for the EUR as well. Also, as part of the Solvency II Review 2020, EIOPA proposes to replace the current extrapolation method by an alternative method. Among other changes, this alternative method incorporates data from the non-liquid part of the curve (beyond the LLP or FSP as it will be called from now on). Apparently, those are considered reliable enough to be included in the calculation. Will the non-liquid rates that enter into the calculation of the alternative extrapolation method still be reliable enough after the transition?	The proposed changes in the LLP are the outcome of the DLT assessment which is performed on a yearly frequency. The assessment is made for all currencies and can be found in section 5.2 of the Annex.

			It is EIOPA's view that the non-liquid rates that enter into the calculation of the alternative extrapolation method would be as reliable as they currently are.
6.	CRO Forum | CFO Forum	It is important to recognize the specific situation for each respective currency in light of (local) ALM practices and market situation as well as local regulatory frameworks. We set out below our views per currency. In general, in order to avoid unnecessary volatility, we clearly prefer stable LLPs over time (please see below our views on the suggested LLP's per currency). For GBP, our suggestion is to consider remaining on the current LLP of 50 years if possible. Our view is that the drop in liquidity on the longer end of the curve may be temporary for GBP, notably due to specific actions of the PRA to influence market liquidity on this part of the curve. A move to 30 years may prove temporary, with a need to switch back to 50 years soon after. This would lead to unnecessary volatility. For USD, we fully support the change of the LLP from 50 to 30 years and believe this is in line with wider observations an LLP of 30 years is more appropriate for this specific currency. It will improve any existing duration gaps. For both the CHF and the JPY, we do not support a temporary move to government bonds driven by	Noted. It has to be mentioned that the approach held by EIOPA is slightly different than the one used by the PRA. We believe that once robust liquidity appears in the SONIA a change will have to take place (in a timely manner). However, this may take a lot of time. In the meantime EIOPA's term structures would need to remain market consistent

		non-fulfilled liquidity / proximity conditions since once the IBOR is discontinued the proximity condition becomes irrelevant and the liquidity of the OIS based curves is expected to sharply increase. For CHF, indicators show a significant increase in derivatives trading activity conducted in OIS risk-free rates for CHF. Also, as CHF LIBOR will cease to be produced from YE2021, it is reasonable to expect trading volumes of OIS swaps are going to increase in the next months. Adopting SARON-based RFR curves is therefore strongly preferred compared to temporarily switching to CHF government bond rates. For JPY, a permanent move to government rates should be envisaged as government bonds are indeed more liquid than swap rates and it would align much better with local ALM practices. Indeed, Japanese insurers typically hold significant investments in government bonds, which would limit the mismatch between assets and liabilities. We are not in favour of just a temporary move to government rates since this would lead to a huge volatility in the Solvency ratio of the concerned entities and would be impossible to manage.	therefore the LLP for the Sonia would need to start at 30y. For all remaining currencies, EIOPA has to use swaps whenever they are liquid due to the directive or delegated regulation. However if they are not liquid a change to government bonds has to occur.
7.	Institut des actuaires - France	The method for CHF is similar to the one used for SST. For JPY, this methodology is less easily justifiable.	Noted.
8.	Actuarial Association of Europe (AAE)	A change of LLP based on the data available in the transitory period requires a thorough analysis. This includes a check whether observed changes are permanent and will continue to exist after the transition to OIS. For GBP and US the DLT assessment would focus on the aggregate swaps liquidity (both IBOR and OIS) rather than just the OIS liquidity (on the grounds that volume is likely to migrate from IBOR to OIS once the transition is complete rather than disappearing). So, if a shift in the LLP to 30 years for GBP or USD is being indicated purely because at the expected	Noted. Once the change to the LLP takes place it will remain like that for a period up to a year when the DLT-ness of the LLP will be revised. Like that we will intend

		time of the switch liquidity at the long end is expected to be depleted in OIS due to continuing activity in IBOR swaps then it may be better to keep the LLP at 50 years throughout rather than change it from 50 to 30 years only to be likely to change it back to 50 years shortly after the transition completed. The method for CHF is similar to that used for SST. For the JPY, this methodology is less easily justifiable.	to provide some stability to the undertakings.

11. What is your view on the proposed treatment of the LTAS? Please explain.			
#	**Stakeholder name**	**Reply**	**Processing**
1.	Insurance and Reinsurance Stakeholder Group	We agree with the proposal.	Agreed.
2.	AMICE	We disagree with the proposed LTAS treatment due to the potential undesired impacts. Although in the construction of the discounting curve a lower RFR activates an offset mechanism as the spread component of the VA mechanically increases, the VA would only capture 65% of the drop of RFR curve (and minus the default adjustment). Therefore, the expected drop in the risk-free rate curve would not be fully compensated resulting in a discounting curve which is lower than the current one. Regarding the LTAS calculation, it should be noted that the proposed treatment would initially keep the LTAS level almost unchanged. However, due to historical averaging, the LTAS would increase over time as a result of the higher spreads. This would reduce the value of the overall VA, hence lowering the discounting curve of liabilities even further.	Noted.

		Moreover, we would like to underline that, besides the LTAS calculation, the historical data of RFR curve are a fundamental component of the internal model calibration. We express our preference for EIOPA´s approach on the treatment of historical RFR curve in the LTAS calculation, as it represents a better option for internal models. At the same time, we request EIOPA to ensure that the same approach, based on the use of mixed data (i.e the old RFR curve for periods prior to the switch and the new RFR curve for periods after the switch) would still be allowed for the calibration of internal models.	
3.	Unipol Group	We are supportive of the proposed LTAS treatment by EIOPA as a pragmatic approach to this issue. Nevertheless, we want to express our strong concerns on potential undesired impacts for insurance companies due to the curve switch. As a principle, switching from one risk-free basis to another should have no effect on the value of the liabilities. However, according to the current formulation of EIOPA proposal, it is possible that insurance companies would face an increase of the value of liabilities due to a drop of the discounting curve. Indeed, it should be born in mind that: (i) the new RFR curve based on OIS would be lower than the current RFR curve; (ii) the change of the risk-free rate benchmark does not only impact the risk-free curve but also the total discount curve including VA/MA. Although in the construction of the discounting curve a lower RFR activates an offset mechanism, as the spread component of the VA mechanically increases, the VA would only capture 65% of the drop of RFR curve (and minus the default adjustment). Therefore, the drop of RFR curve would not be compensated completely and the resulting discounting curve would be lower than the current one, causing an increase in the liabilities value.	Noted.

		Regarding the LTAS calculation, it should be noted that the treatment proposed by EIOPA would initially keep the LTAS level almost unchanged. However, over the course of time, due to historical averaging, the LTAS would increase as a result of the higher spreads. This would reduce the value of the overall VA, hence lowering the discounting curve of liabilities even further. Moreover, we would like to underline that, besides the LTAS calculation, the historical data of RFR curve are a fundamental component of the internal model calibration. We express our preference for EIOPA approach for the treatment of historical RFR curve in LTAS calculation, since it seems to represent the best option. At the same time, we would also like EIOPA to assure that the same approach, based on the use of mixed data (the old RFR curve for periods before the switch and the new RFR curve for periods after the switch) would still be allowed for the calibration of internal models.	
4.	Insurance Europe	This approach is reasonable given that a historic proxy for the new curve is not a trivial exercise. However, it would be helpful for recalculations if historical values were published by EIOPA.	Noted.
5.	GDV (Gesamtverband der Deutschen Versicherungswirtschaft, German Insurance Association)	The proposal appears reasonable.	Noted.
6.	CRO Forum | CFO Forum	We are supportive of the proposed LTAS treatment by EIOPA as a pragmatic approach to this issue. In addition, it would be helpful for recalculations if historical values are published by EIOPA. Nevertheless, we want to reiterate our strong concerns on potential undesired impacts from what	Noted.

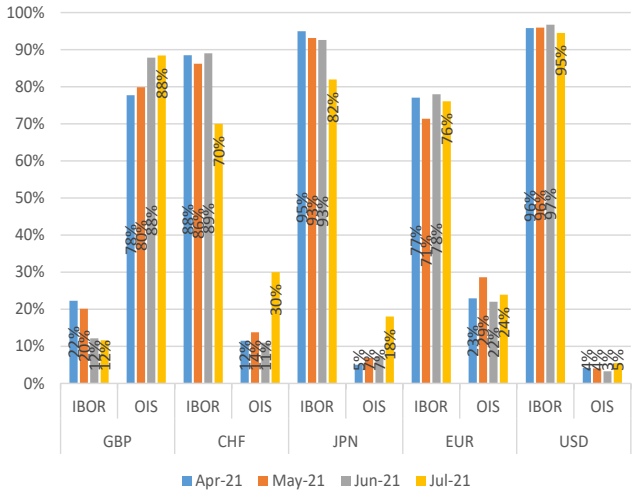
		should just be a technical change in effectively the discount rate for insurance liabilities. Changing the risk-free rate benchmark does not only impact the risk-free curve but also the total discount curve including VA/MA. An analogy that is appropriate in this respect is that if one would switch from Celsius to Fahrenheit, the actual temperature should not change. Similarly, switching from one risk-free basis to another should have no effect on the value of the liabilities. However, as it currently stands the transition to the new risk-free rates will lower the discounting curve of the liabilities. There will be an offset of the lower RFR as the spread component of the VA will mechanically increase, however the VA only captures 65% of it (and minus the default adjustment) and therefore a net negative impact will remain. Note that the proposed LTAS treatment keeps the LTAS level initially unchanged, however, over the course of time (as a result of historical averaging) also the LTAS will increase as a result of the mechanically higher spreads and therefore lower the overall VA, hence lower the discounting curve even further. Unless any correcting adjustments are made to avoid subsequent negative impacts on the value of insurance liabilities. This observation is related to our notion on the CRA on Q8 and in previous communications.	
7.	Institut des actuaires - France	We agree with the proposed approach.	Noted.
8.	Actuarial Association of Europe (AAE)	In consideration of the arguments in 4.10 - 4.11 concerning data availability and past experience (change of data provider) we support the proposed approach. Adjusting the spreads over the last 30 years in absence of data would be disproportionate and arbitrary. Though not expected to be material, we note a slightly underestimation of the LTAS which in turn leads to a slightly overestimation of the VA.	Noted.

5.2 LIQUIDITY AND PROXIMITY CONDITIONS

a) Liquidity developments: Total turnover of IBOR vs OIS swaps

Developments in the overall liquidity for the five relevant currencies in the last 4 months (percentages based on the sum of the notional amounts of actual trades per swap type)

Currency	Type	Apr-21	May-21	Jun-21	Jul-21
GBP	IBOR turnover of total	22%	20%	12%	12%
	OIS turnover of total	78%	80%	88%	88%
CHF	IBOR turnover of total	88%	86%	89%	70%
	OIS turnover of total	12%	14%	11%	30%
JPN	IBOR turnover of total	95%	93%	93%	82%
	OIS turnover of total	5%	7%	7%	18%
EUR	IBOR turnover of total	77%	71%	78%	76%
	OIS turnover of total	23%	29%	22%	24%
USD	IBOR turnover of total	96%	96%	97%	95%
	OIS turnover of total	4%	4%	3%	5%



DLT assessment of the five relevant currencies in for the month of July 2021 per tenor

As requested by the stakeholders in the consultation, we provide the tables with the overall relative liquidity and DLT assessment per tenor for the five relevant currencies. The intention is assess the feasibility of the publication of this assessment on a regular basis in order for stakeholders to be able to observe liquidity developments.

Important note:

i) *IBOR / OIS turnover of total* are calculated based to and the sum of the notional amounts traded.

ii) The overall DLT-ness of each tenor was calculated based on the *average notional amount traded* and *the average number of trades* per month. In order for a tenor to be DLT the two conditions mentioned below would need to be satisfied:

a) The average notional amount per tenor needs to exceed 50 million EUR

b) The average monthly trades need to be equal or more to 10

GBP

Maturity	1	2	3	4	5	6	7	8	9	10
IBOR turnover of total	8%	15%	4%	6%	9%	14%	7%	25%	9%	14%
OIS turnover of total	92%	85%	96%	94%	91%	86%	93%	75%	91%	86%
OIS>IBOR	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
OIS DLT-ness	DLT	DLT	DLT	DLT	DLT	Not DLT	DLT	Not DLT	DLT	DLT

Maturity	11	12	13	14	15	16	17	18	19	20
IBOR turnover of total	17%	13%	7%	11%	11%	23%	54%	32%	32%	18%
OIS turnover of total	83%	87%	93%	89%	89%	77%	46%	68%	68%	82%
OIS>IBOR	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES
OIS DLT-ness	Not DLT	Not DLT	Not DLT	Not DLT	DLT	Not DLT	Not DLT	Not DLT	Not DLT	DLT

Maturity	21	22	23	24	25	26	27	28	29	30
IBOR turnover of total	19%	26%	11%	21%	51%	24%	52%	7%	4%	32%
OIS turnover of total	81%	74%	89%	79%	49%	76%	48%	93%	96%	68%
OIS>IBOR	YES	YES	YES	YES	NO	YES	NO	YES	YES	YES
OIS DLT-ness	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	DLT

Maturity	31	32	33	34	35	36	37	38	39	40
IBOR turnover of total	4%	41%	0%	75%	73%	0%	100%	2%	67%	24%
OIS turnover of total	96%	59%	100%	25%	27%	100%	0%	98%	33%	76%
OIS>IBOR	YES	YES	YES	NO	NO	YES	NO	YES	NO	YES
OIS DLT-ness	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT

Maturity	41	42	43	44	45	46	47	48	49	50
IBOR turnover of total	0%	0%	100%	51%	7%	5%	70%	0%	0%	50%
OIS turnover of total	100%	100%	0%	49%	93%	95%	30%	100%	100%	50%
OIS>IBOR	YES	YES	NO	NO	YES	YES	NO	YES	YES	NO
OIS DLT-ness	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT

CHF

Maturity	1	2	3	4	5	6	7	8	9	10
IBOR turnover of total	62%	85%	74%	60%	62%	43%	43%	55%	46%	70%
OIS turnover of total	38%	15%	26%	40%	38%	57%	57%	45%	54%	30%
OIS>IBOR	NO	NO	NO	NO	NO	YES	YES	NO	YES	NO
OIS DLT-ness	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT

Maturity	11	12	13	14	15	16	17	18	19	20
IBOR turnover of total	73%	9%	97%	0%	40%	100%	0%	N/A	0%	21%
OIS turnover of total	27%	91%	3%	100%	60%	0%	100%	N/A	100%	79%
OIS>IBOR	NO	YES	NO	YES	YES	NO	YES	N/A	YES	YES
OIS DLT-ness	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT

Maturity	21	22	23	24	25					
IBOR turnover of total	N/A	N/A	N/A	N/A	52%					
OIS turnover of total	N/A	N/A	N/A	N/A	48%					
OIS>IBOR	N/A	N/A	N/A	N/A	NO					
OIS DLT-ness	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT					

JPY

Maturity	1	2	3	4	5	6	7	8	9	10
IBOR turnover of total	85%	91%	46%	93%	87%	81%	64%	50%	85%	78%
OIS turnover of total	15%	9%	54%	7%	13%	19%	36%	50%	15%	22%
OIS>IBOR	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
OIS DLT-ness	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	DLT

Maturity	11	12	13	14	15	16	17	18	19	20
IBOR turnover of total	93%	67%	N/A	N/A	60%	N/A	100%	N/A	100%	73%
OIS turnover of total	7%	33%	N/A	N/A	40%	N/A	0%	N/A	0%	27%
OIS>IBOR	NO	NO	N/A	N/A	NO	N/A	NO	N/A	NO	NO
OIS DLT-ness	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT

Maturity	21	22	23	24	25	26	27	28	29	30
IBOR turnover of total	100%	100%	N/A	N/A	75%	N/A	N/A	N/A	87%	79%
OIS turnover of total	0%	0%	N/A	N/A	25%	N/A	N/A	N/A	13%	21%
OIS>IBOR	NO	NO	N/A	N/A	NO	N/A	N/A	N/A	NO	NO
OIS DLT-ness	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT

EUR

Maturity	1	2	3	4	5	6	7	8	9	10
IBOR turnover of total	43%	72%	77%	66%	88%	81%	83%	71%	64%	95%
OIS turnover of total	57%	28%	23%	34%	12%	19%	17%	29%	36%	5%
OIS>IBOR	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
OIS DLT-ness	DLT	DLT	Not DLT	Not DLT	DLT	Not DLT	Not DLT	Not DLT	DLT	Not DLT

Maturity	11	12	13	14	15	16	17	18	19	20
IBOR turnover of total	93%	90%	76%	82%	93%	84%	85%	90%	88%	94%
OIS turnover of total	7%	10%	24%	18%	7%	16%	15%	10%	12%	6%
OIS>IBOR	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
OIS DLT-ness	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT

Maturity	21	22	23	24	25	26	27	28	29	30
IBOR turnover of total	97%	69%	97%	99%	86%	84%	89%	100%	95%	96%
OIS turnover of total	3%	31%	3%	1%	14%	16%	11%	0%	5%	4%
OIS>IBOR	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
OIS DLT-ness	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT

USD

Maturity	1	2	3	4	5	6	7	8	9	10
IBOR turnover of total	94%	93%	96%	94%	96%	94%	90%	95%	91%	96%
OIS turnover of total	6%	7%	4%	6%	4%	6%	10%	5%	9%	4%
OIS>IBOR	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
OIS DLT-ness	Not DLT	Not DLT	Not DLT	Not DLT	DLT	Not DLT	Not DLT	Not DLT	Not DLT	DLT

Maturity	11	12	13	14	15	16	17	18	19	20
IBOR turnover of total	99%	93%	85%	99%	94%	99%	100%	100%	74%	93%
OIS turnover of total	1%	7%	15%	1%	6%	1%	0%	0%	26%	7%
OIS>IBOR	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
OIS DLT-ness	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT

Maturity	21	22	23	24	25	26	27	28	29	30
IBOR turnover of total	96%	100%	65%	100%	98%	100%	83%	100%	100%	96%
OIS turnover of total	4%	0%	35%	0%	2%	0%	17%	0%	0%	4%
OIS>IBOR	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
OIS DLT-ness	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT

Maturity	31	32	33	34	35	36	37	38	39	40
IBOR turnover of total	100%	N/A	N/A	100%	94%	100%	100%	N/A	100%	91%
OIS turnover of total	0%	N/A	N/A	0%	6%	0%	0%	N/A	0%	9%
OIS>IBOR	NO	N/A	N/A	NO	NO	NO	NO	N/A	NO	NO
OIS DLT-ness	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT

Maturity	41	42	43	44	45	46	47	48	49	50
IBOR turnover of total	N/A	N/A	N/A	N/A	100%	N/A	100%	100%	N/A	97%
OIS turnover of total	N/A	N/A	N/A	N/A	0%	N/A	0%	0%	N/A	3%
OIS>IBOR	N/A	N/A	N/A	N/A	NO	N/A	NO	NO	N/A	NO
OIS DLT-ness	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT	Not DLT

b) Proximity condition

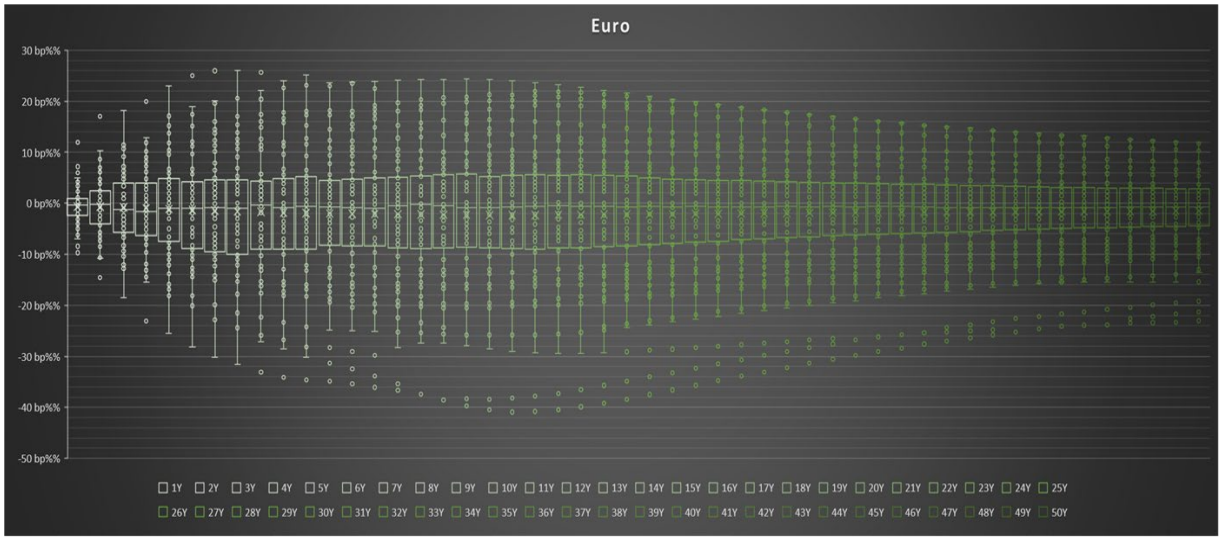
Interquartile range analysis

Below you may find the monthly deviations of RFR rates for the five currencies which form most of the liabilities of EU insurers. Based on all published curves (without VA) since the start of SII EIOPA has created the following Box-plots showing the monthly deviations for the first 50 tenors.

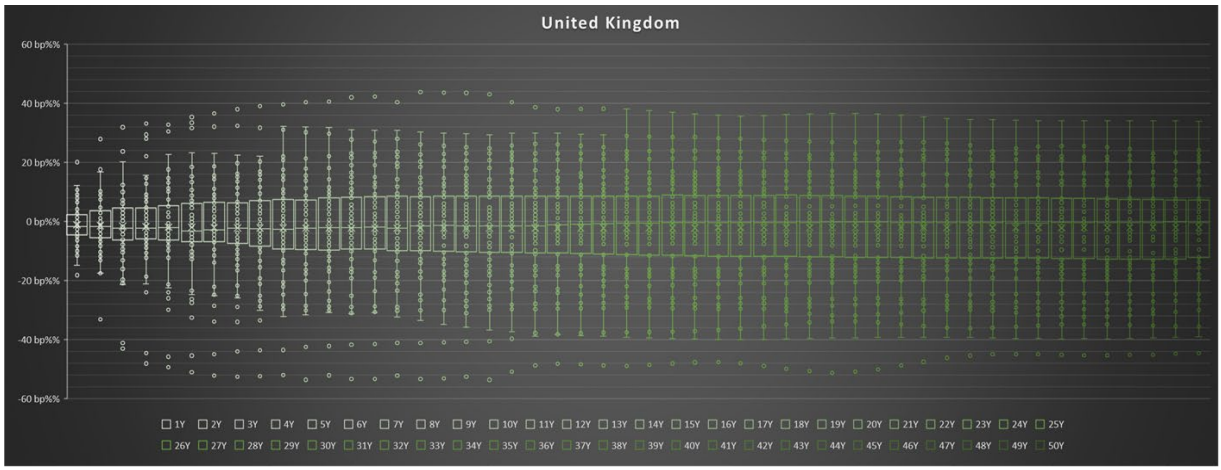
The box-plots show the mean (X), median and the 25% and 75% percentiles (Q1 and Q3) as well as any outliers outside 1.5 times the IQR (interquartile range: Q3-Q1). Due to the use of the Smith Wilson extrapolation the right side of the graphs after the Last Liquid Point will show a squeezing behaviour due to the enforced convergence to the UFR. On the y-axis, we see the variation in absolute terms measured in basis points (bps).

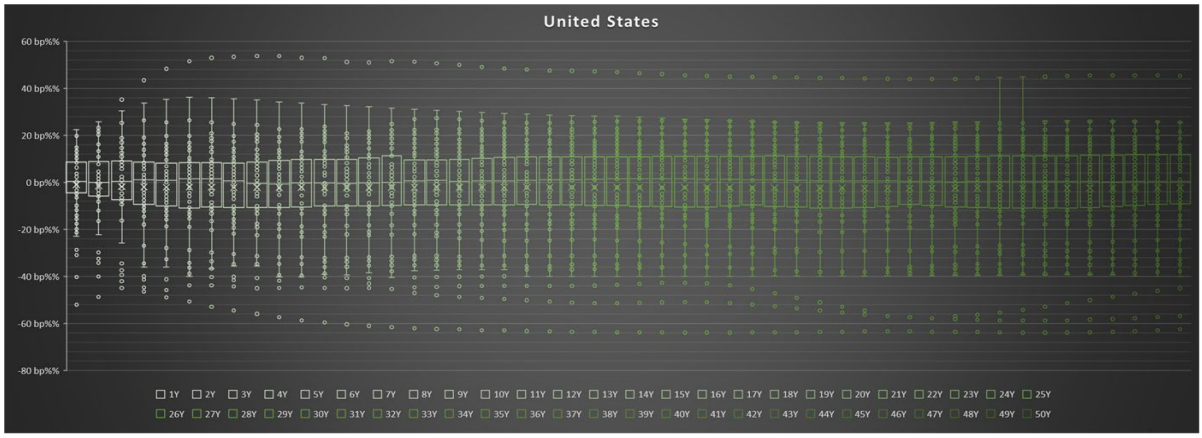
The plots show the monthly volatility in the rates in question. This information is used for identifying the optimal timing for the switch to the new OIS curves.

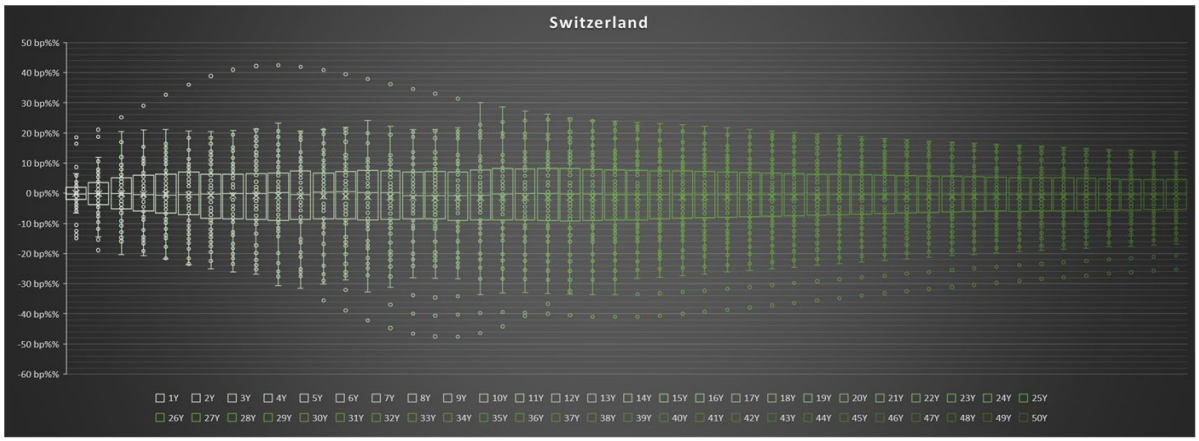
EURO

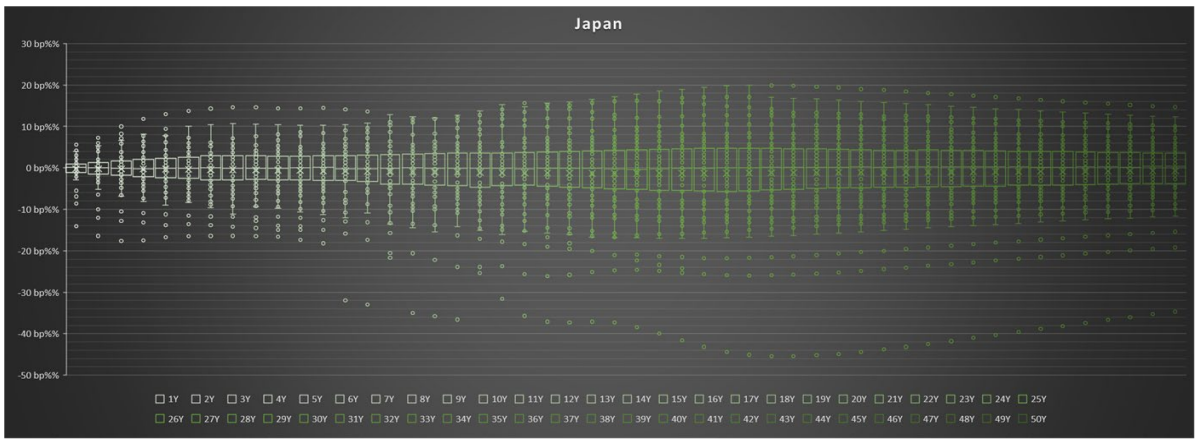


LIBOR denominated currencies




United States
60 bp%%
40 bp%%
20 bp%%
0 bp%%
-20 bp%%
-40 bp%%
-60 bp%%
-80 bp%%
1Y 2Y 3Y 4Y 5Y 6Y 7Y 8Y 9Y 10Y 11Y 12Y 13Y 14Y 15Y 16Y 17Y 18Y 19Y 20Y 21Y 22Y 23Y 24Y 25Y
26Y 27Y 28Y 29Y 30Y 31Y 32Y 33Y 34Y 35Y 36Y 37Y 38Y 39Y 40Y 41Y 42Y 43Y 44Y 45Y 46Y 47Y 48Y 49Y 50Y


Switzerland
50 bp%%
40 bp%%
30 bp%%
20 bp%%
10 bp%%
0 bp%%
-10 bp%%
-20 bp%%
-30 bp%%
-40 bp%%
-50 bp%%
-60 bp%%
1Y 2Y 3Y 4Y 5Y 6Y 7Y 8Y 9Y 10Y 11Y 12Y 13Y 14Y 15Y 16Y 17Y 18Y 19Y 20Y 21Y 22Y 23Y 24Y 25Y
26Y 27Y 28Y 29Y 30Y 31Y 32Y 33Y 34Y 35Y 36Y 37Y 38Y 39Y 40Y 41Y 42Y 43Y 44Y 45Y 46Y 47Y 48Y 49Y 50Y


Japan
30 bp%%
20 bp%%
10 bp%%
0 bp%%
-10 bp%%
-20 bp%%
-30 bp%%
-40 bp%%
-50 bp%%
1Y 2Y 3Y 4Y 5Y 6Y 7Y 8Y 9Y 10Y 11Y 12Y 13Y 14Y 15Y 16Y 17Y 18Y 19Y 20Y 21Y 22Y 23Y 24Y 25Y
26Y 27Y 28Y 29Y 30Y 31Y 32Y 33Y 34Y 35Y 36Y 37Y 38Y 39Y 40Y 41Y 42Y 43Y 44Y 45Y 46Y 47Y 48Y 49Y 50Y

5.3 ARTICLES OF THE DELEGATED REGULATION[19] REFERRING TO THE CREDIT RISK ADJUSTMENT (CRA)

Article 44

Relevant financial instruments to derive the basic risk-free interest rates

1. For each currency and maturity, the basic risk-free interest rates shall be derived on the basis of interest rate swap rates for interest rates of that currency, adjusted to take account of credit risk.

2. For each currency, for maturities where interest rate swap rates are not available from deep, liquid and transparent financial markets the rates of government bonds issued in that currency, adjusted to take account of the credit risk of the government bonds, shall be used to derive the basic risk free-interest rates, provided that, such government bond rates are available from deep, liquid and transparent financial markets.

Article 45

Adjustment to swap rates for credit risk

The adjustment for credit risk referred to in Article 44(1) shall be determined in a transparent, prudent, reliable and objective manner that is consistent over time. The adjustment shall be determined on the basis of the difference between rates capturing the credit risk reflected in the floating rate of interest rate swaps and overnight indexed swap rates of the same maturity, where both rates are available from deep, liquid and transparent financial markets. The calculation of the adjustment shall be based on 50 percent of the average of that difference over a time period of one year. The adjustment shall not be lower than 10 basis points and not higher than 35 basis points.

[19] Commission Delegated Regulation (EU) 2015/35 of 10 October 2014 supplementing Directive 2009/138/EC of the European Parliament and of the Council on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II) (*OJ L 12, 17.1.2015, p. 1*).

REPORT ON EIOPA'S PROPOSAL FOR THE IMPLEMENTATION OF IBOR TRANSITIONS INCLUDING FEEDBACK FROM THE CONSULTATION PAPER NO. 21/197 ON THE METHODOLOGY AND THE INFORMATION REQUEST NO. 21/198 ON THE IMPACT

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