

CP Draft Guidelines on the determination of the weighted average maturity (WAM) of the contractual payments due under the tranche

Public hearing, 3 September 2019

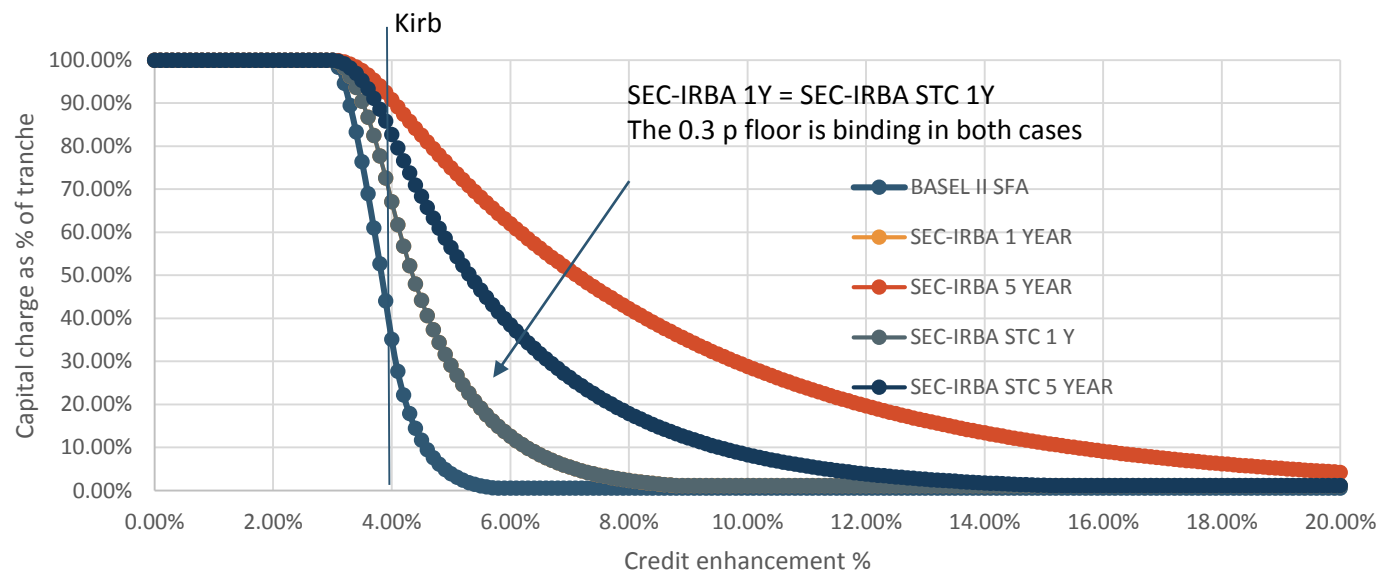
Basel. 2014 Revisions to the Securitisation Framework



- **One of the major shortcomings** of Basel II securitisation framework:
 - Sharp cliff effects in marginal capital charges, in part due to the **lack of an adequate incorporation of maturity**
 - Basel II securitisation framework looked only at the **risk of default over a 1-year horizon ignoring the risk of a potential deterioration afterwards**
 - **Implicitly assuming that a given tranche will not incur any market value loss until the values for all more-junior tranches have been reduced to zero**
- Incorporation of maturity is done with the purpose of calculating the risk weighted exposure amounts of securitisation positions via the (1) the Internal Ratings Based Approach (**SEC-IRBA**) and (2) the External Ratings Based Approach (**SEC-ERBA**)

Basel. Revisions to the Securitisation Framework. SEC-IRBA. Effect of maturity

Capital charge by credit enhancement. Thin tranche



Assuming: Kirb=4%, LGD=35%, PD=1,45%, N=1000, T=1%

Basel. Revisions to the Securitisation Framework. SEC-ERBA.

Effect of maturity on non-STC.

Table 2: ERBA risk weights for long-term ratings

Rating	Senior tranche		Non-senior (thin) tranche	
	<i>Tranche maturity (M_T)</i>		<i>Tranche maturity (M_T)</i>	
	<i>1 year</i>	<i>5 years</i>	<i>1 year</i>	<i>5 years</i>
AAA	15%	20%	15%	70%
AA+	15%	30%	15%	90%
AA	25%	40%	30%	120%
AA-	30%	45%	40%	140%
A+	40%	50%	60%	160%
A	50%	65%	80%	180%
A-	60%	70%	120%	210%
BBB+	75%	90%	170%	260%
BBB	90%	105%	220%	310%
BBB-	120%	140%	330%	420%
BB+	140%	160%	470%	580%
BB	160%	180%	620%	760%
BB-	200%	225%	750%	860%
B+	250%	280%	900%	950%
B	310%	340%	1050%	1050%
B-	380%	420%	1130%	1130%
CCC+/CCC/CCC-	460%	505%	1,250%	1,250%
Below CCC-	1,250%	1,250%	1,250%	1,250%

- To account for tranche maturity, banks shall use linear interpolation between the risk weights for one and five years.

Basel. Revisions to the Securitisation Framework. SEC-ERBA. Effect of maturity on STC.

Table 2: ERBA risk weights for long-term ratings

Rating	Senior tranche		Non-senior (thin) tranche	
	<i>Tranche maturity (M_T)</i>		<i>Tranche maturity (M_T)</i>	
	<i>1 year</i>	<i>5 years</i>	<i>1 year</i>	<i>5 years</i>
AAA	10%	10%	15%	40%
AA+	10%	15%	15%	55%
AA	15%	20%	15%	70%
AA-	15%	25%	25%	80%
A+	20%	30%	35%	95%
A	30%	40%	60%	135%
A-	35%	40%	95%	170%
BBB+	45%	55%	150%	225%
BBB	55%	65%	180%	255%
BBB-	70%	85%	270%	345%
BB+	120%	135%	405%	500%
BB	135%	155%	535%	655%
BB-	170%	195%	645%	740%
B+	225%	250%	810%	855%
B	280%	305%	945%	945%
B-	340%	380%	1,015%	1,015%
CCC+/CCC/CCC-	415%	455%	1,250%	1,250%
Below CCC-	1,250%	1,250%	1,250%	1,250%

Basel. 2014 Revisions to the Securitisation Framework

22. For risk-based capital purposes, tranche maturity (M) is the tranche's remaining effective maturity in years and can be measured at the bank's discretion in either of the following manners:

(a) As the euro **weighted-average maturity** of the contractual cash flows of the tranche:

$$M_T = \sum_t t \cdot CF_t / \sum_t CF_t,$$

where CF_t denotes the cash flows (principal, interest payments and fees) contractually payable by the borrower in period t .

The contractual payments must be **unconditional and must not be dependent on the actual performance of the securitised assets.** If such unconditional contractual payment dates are not available, the final legal maturity shall be used.

(b) On the basis of **final legal maturity** of the tranche, as:

- ▶ $M_T = 1 + (M_L - 1) * 80\%$,
- ▶ where M_L is the final legal maturity of the tranche.
- ▶ In all cases, M_T will have a floor of one year and a cap of five years.

CRR 2017 amendment Art 257 Determination of tranche maturity (M_T)

1. For the purposes of Subsection 3 and subject to paragraph 2, institutions may measure the maturity of a tranche (M_T)

as either:

(a) the **weighted average maturity** of the contractual payments due under the tranche in accordance with the following formula:

$$\sum_t t \cdot CF_t / \sum_t CF_t,$$

where CF_t denotes all contractual payments (principal, interests and fees) payable by the borrower during period t ; or

(b) the **final legal maturity** of the tranche in accordance with the following formula:

$$M_T = 1 + (M_L - 1) * 80 \%,$$

where M_L is the final legal maturity of the tranche.

Mandate



4. The EBA shall **monitor the range of practices** in this area, with particular regard to the application of point (a) of paragraph 1 of this Article, and shall, in accordance with Article 16 of Regulation (EU) No 1093/2010, **issue guidelines** by 31 December 2019.

Range of practices. WAM, Duration, Modified Duration

WAM:
$$M_T = \sum_t t \cdot CF_t / \sum_t CF_t$$

Similar to other formulas to estimate price sensibility of bonds to changes in yield, which also need to estimate cash flows of bonds

Modified duration (%) :
$$-\frac{1}{P} \cdot \frac{\partial P}{\partial i} = \text{Duration} / (1 + i)$$

Duration (time) :
$$\sum_t t \cdot CF_t / (1 + i)^t / \sum_t CF_t / (1 + i)^t$$

Range of practices. Use of Maturity and assumptions

- Key parameter for **several purposes** such as pricing and trading, return calculation, funding and risk analysis, and hedging in respect of traditional securitisations.
- **Calculated based on conditional cash flow assumptions** such as prepayment, delinquency, default and recovery
- Contractual payment due under the tranche are **a combination of both contractual payments of the borrower in relation to the securitised loan agreement and the contractual payments payable by the SSPE**
- **All respondents take into account prepayments** in their cash flow models but there is no standardised market practice regarding the definition of the prepayment rate
- **Less common to take into account:**
 - **defaults** and delinquencies for maturity calculation unless the assets are expected to suffer significant losses
 - the **economic cycle forecast** as most cash flow models are based on historical data observed through the cycle
- **Contractual features such as clean-up calls and other optional redemption such as step-up calls are also often considered.** In particular, institutions often model the probability that the option is exercised at call date taking into account the economics and the reputation of the originator of not exercising the call.

Range of practices. Data and models

The type of data and models (external / internal) used by institutions to calculate the cash flows of securitisation bonds usually depends on the position they are having in the securitisation:

- When acting as an **originator, sponsor or servicer**, institutions tend to use **internal data** and apply their **own cash flow and liability models**
- When acting as **investors**, institutions tend to use **existing industry standard external models with data from investor reports and data from the European Data Warehouse or, when available, directly provided by the originator or servicer**
 - Such models include, but are not limited, to Bloomberg, Intex, Trepp, and Moody's Analytics.

Draft GLs on WAM. Objectives

- Ensure that the methodology applicable for the determination of WAM for regulatory purposes is sufficiently harmonised in order to increase **consistency and comparability in the capital** held by credit institutions.

- This methodology should also be:
 - **clear**, to avoid arbitrage and allow for its usage by less sophisticated institutions using SEC-ERBA;
 - **conservative**, to maintain a sufficient level of prudence; and
 - **simple**, to facilitate the supervision by competent authorities.

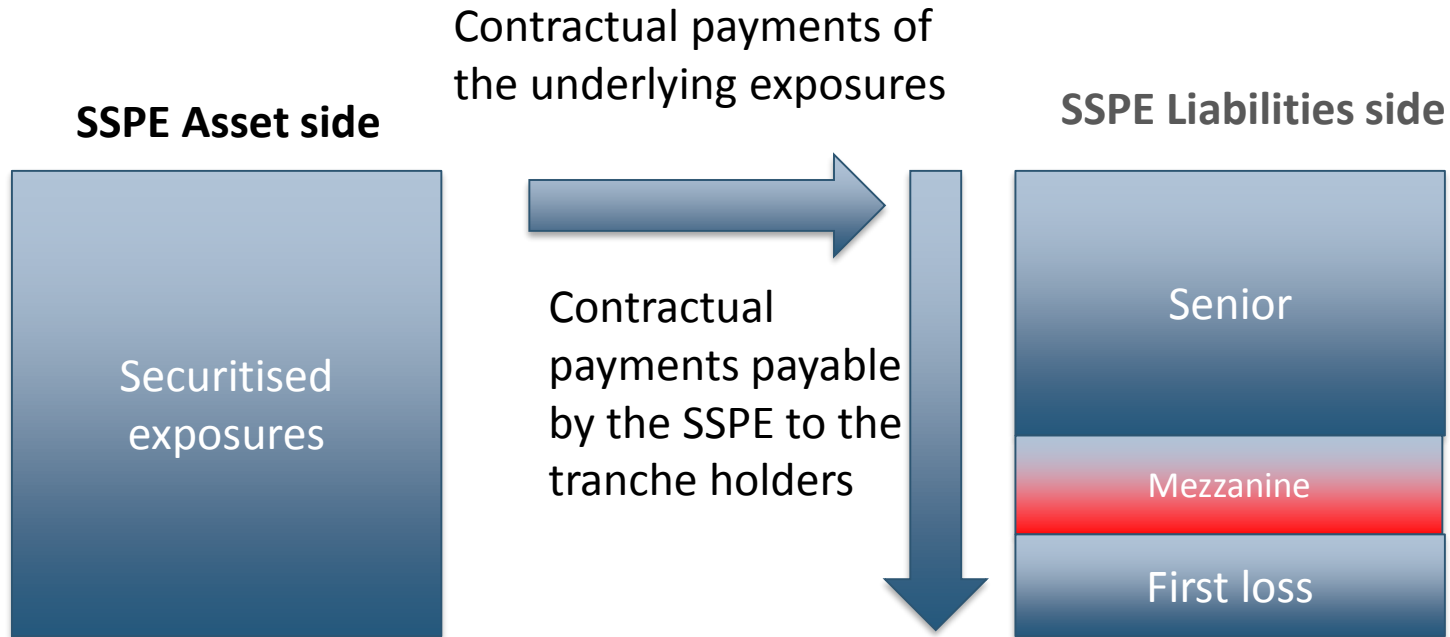
Draft GLs. Contractual payments due under the tranche

- **Traditional** securitisations
 - the combination of 1) the contractual payments of the underlying exposures payable to the SSPE and 2) the contractual payments payable by the SSPE to the tranche holders

- **Synthetic** securitisation **two options for consultation:**
 - a. the **contractual payments of premia** payable to the protection providers of the protected tranches by the originator
 - b. In the case of **funded credit protection**, the contractual payments due under the tranche should **also include the reimbursement of the collateral pledged and any interest or coupons collected by the protection providers from the collateral**. Unfunded credit protection would be dealt with as in (a)

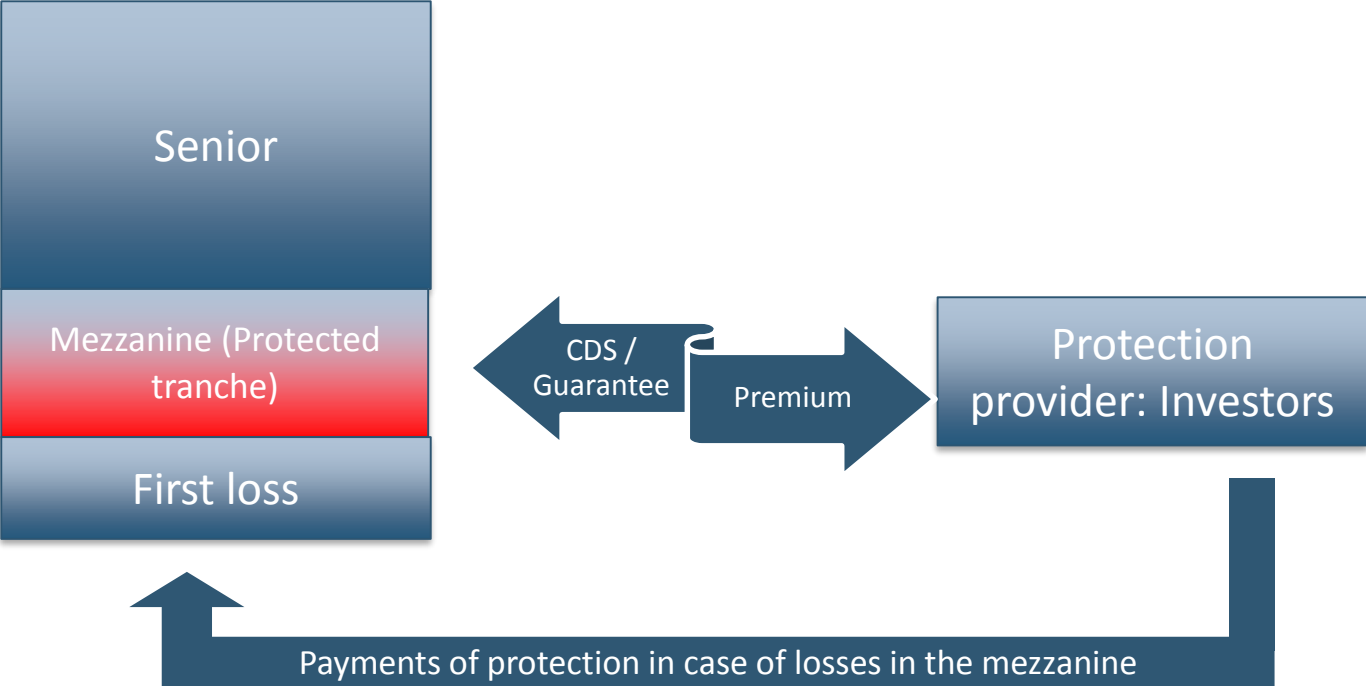
Contractual payments due under the tranche

Traditional securitisation



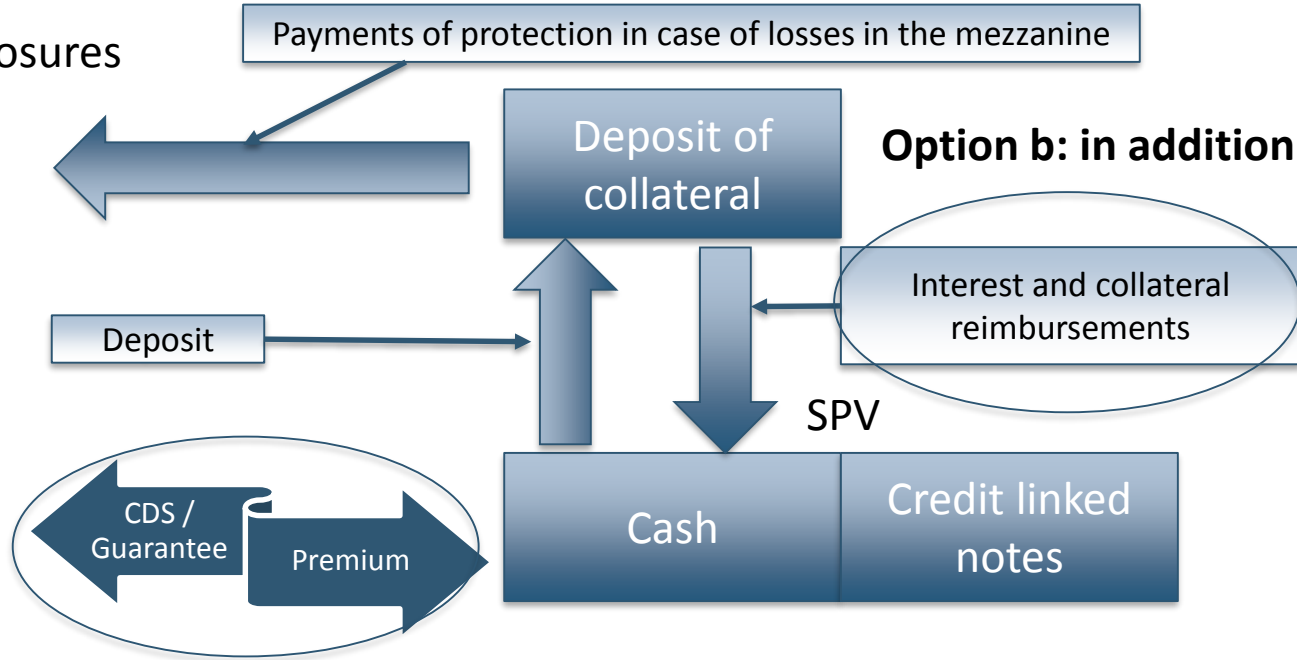
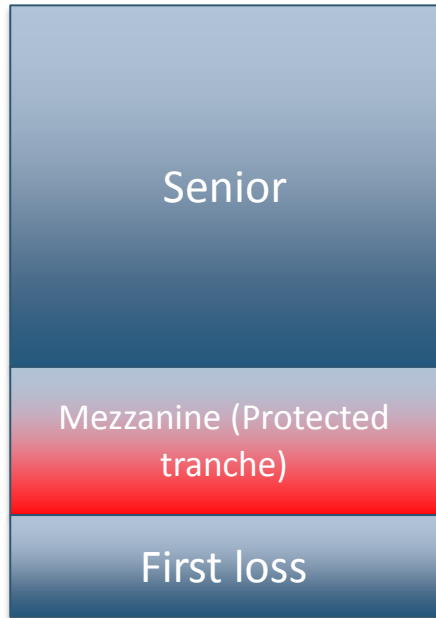
Contractual payments due under the tranche Synthetic securitisation. Unfunded credit protection

Originator. Securitised exposures



Contractual payments due under the tranche Synthetic securitisation. Funded credit protection

Originator. Securitised exposures



Option a

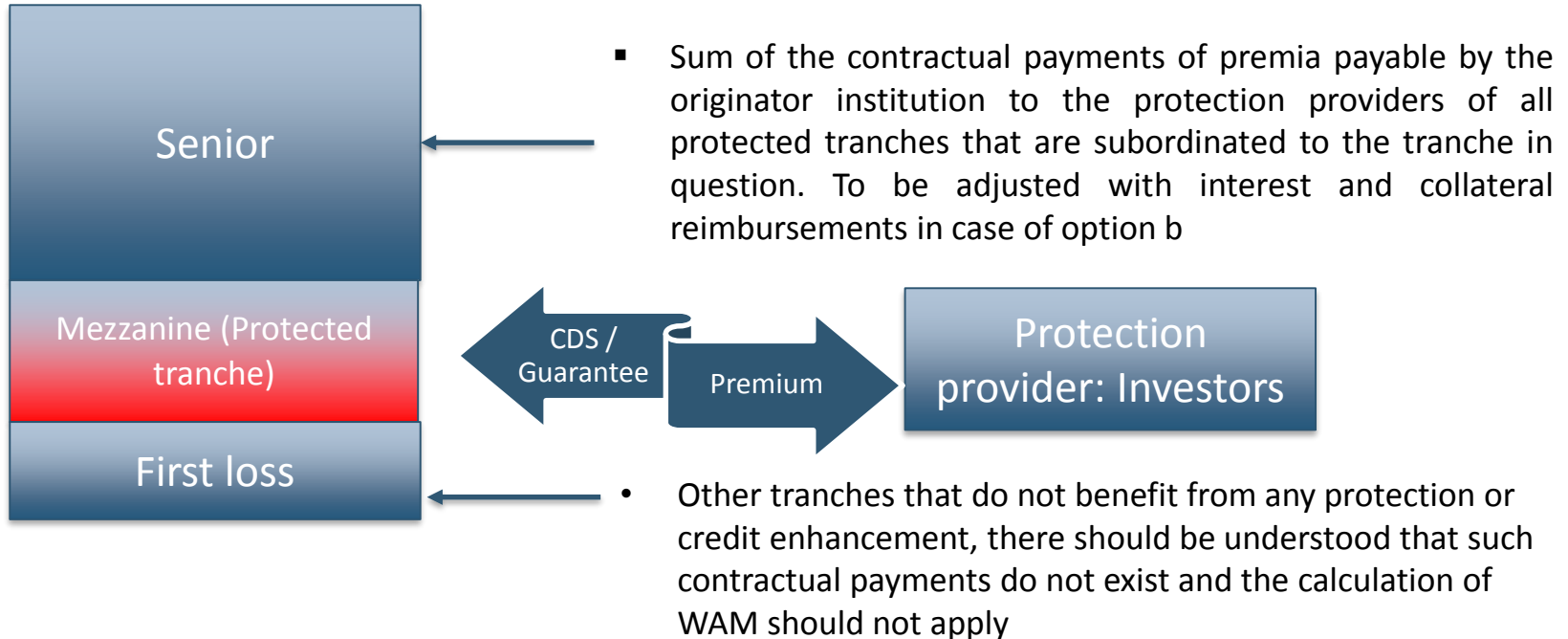
Draft GLs: Contractual payments due under the tranche

Synthetic securitisation. Originator:

- Also holds **tranches that are more senior than a protected tranche**, thus benefiting from the credit enhancement that the tranching of the risk creates, the originator institution should regard the contractual payments due under a tranche of the former as the sum of the contractual payments of premia payable by the originator institution to the protection providers of all protected tranches that are subordinated to the tranche in question.
- Other **tranches that do not benefit from any protection or credit enhancement**, there should be understood that such contractual payments do not exist and the calculation of WAM should not apply

Contractual payments due under the tranche Synthetic securitisation.

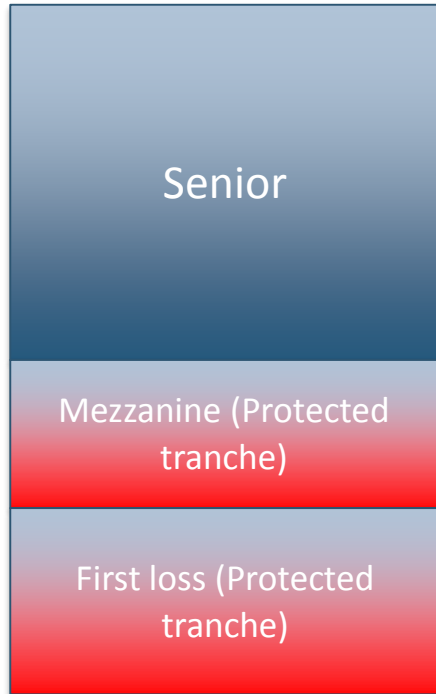
Originator. Securitised exposures



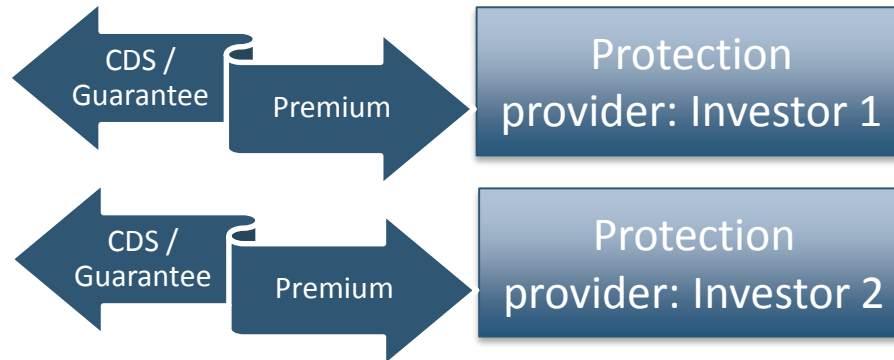
Contractual payments due under the tranche

Synthetic securitisation.

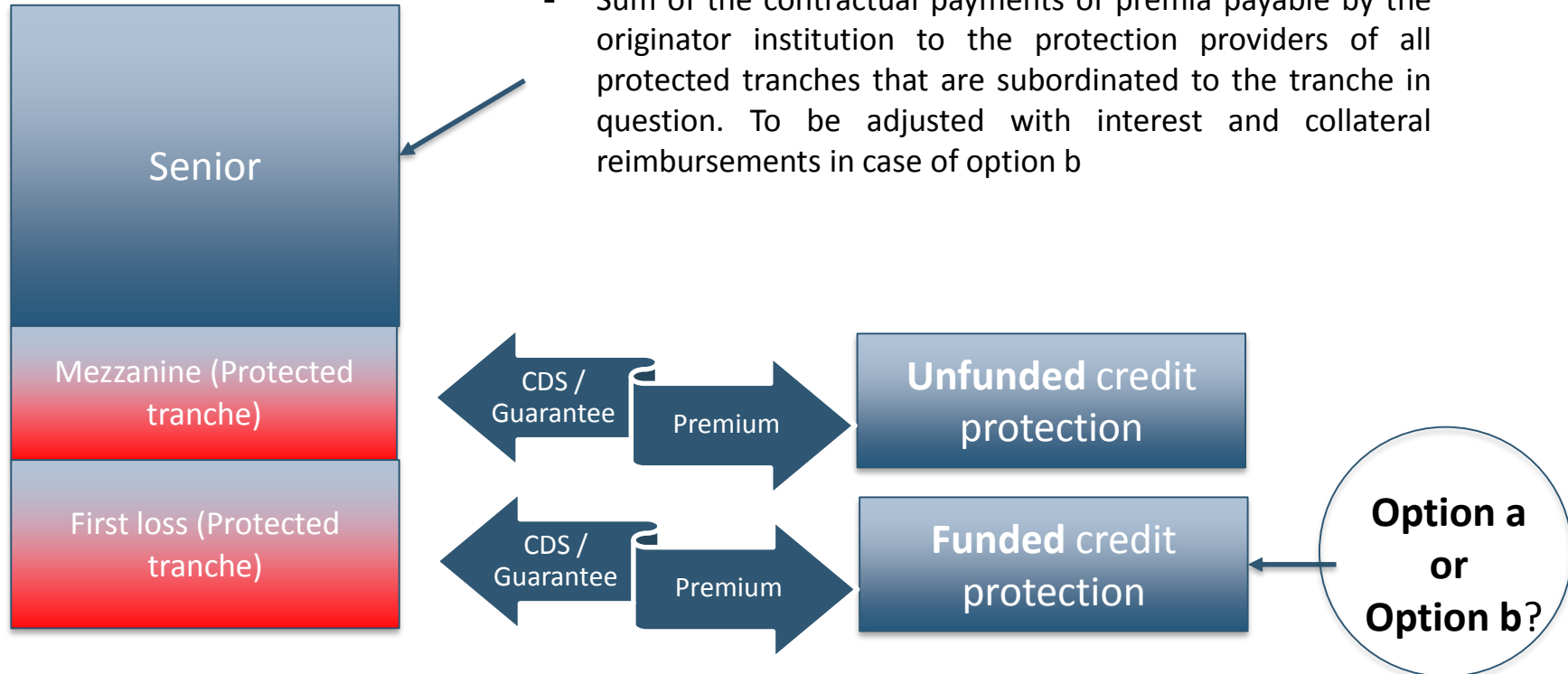
Originator. Securitised exposures



- Sum of the contractual payments of premia payable by the originator institution to the protection providers of all protected tranches that are subordinated to the tranche in question. To be adjusted with interest and collateral reimbursements in case of option b



Funded plus unfunded protection in the same synthetic securitisation



Questions

- **Question 1:** Do you agree that **the contractual payments due under the contract that provides credit protection by virtue of which the credit risk is transferred**, and not those contractual payments of the borrowers in relation to the underlying exposures, **are the ones to be considered for determining the WAM of a tranche in a synthetic securitisation from a regulatory perspective?** If not, please provide evidence supporting your views.
- **Question 2:** Do you agree that, in the case of **funded credit protection**, the **reimbursement of the collateral pledged, and any interest or coupons collected by the protection providers from the collateral, should be considered contractual payments** due under the tranche along with the premia, as referred to between brackets, and highlighted in italic, in paragraph 20 of the Rationale; paragraphs 12, 57 and 64 of the draft guidelines; and paragraphs 7, 13 and 14 of the impact assessment? If not, please provide evidence supporting your views.

Draft GLs: Data and information requirements

Underlying pool of exposures:

- The servicer should use internal data.
- If not the servicer, it should resort to external data on the underlying pool (typically from the **disclosure templates set out in the Securitisation Regulation**) obtained either directly by the institution or indirectly from a third party data provider.

The GLs will provide conservative assumptions to be made in case of lack of data on specific inputs (to cater for the no data option in the securitisation disclosure templates)

Asset model: Conservative assumptions in case of lack of data

- Make the necessary **adjustments unless** the data concerns the **current interest rate, the current principal balance or the currency denomination** of the underlying exposures
- The **adjustment should reflect the most conservative assumption**, which should be the one that postpones the contractual payments closest to the final legal maturity of the transaction
 - ‘maturity date’ institutions should apply the final legal maturity;
 - ‘amortisation type’ institutions should apply bullet amortisation,;
 - ‘scheduled principal and interest payment frequency’, institutions should apply an annual frequency where the amortisation type requires periodical instalments;
- where there is no information available on the **‘current interest rate’ of some exposures, and their outstanding amount does not exceed 5%** of the total outstanding amount of the securitised exposures, the institution may apply on those exposures the **exposure weighted average interest rate of the rest** of the securitised exposures for which that information is available

Draft GLs: Data and information requirements

Liability model

The **underlying documentation** of the transaction should be the primary source of information to calculate

- i) the contractual payments due by the SSPE to the note holders of a securitisation position in a traditional securitisation, and
- ii) the contractual payments derived from the protection agreement between the protection buyer and the protection provider in a synthetic securitisation

Asset model. Methodology for performing underlying exposures

Given the variety and complexity of the amortisation methods and interest rate options and the assumptions to be made to reflect future prepayment scenarios, and future default and delinquency scenarios :

- a) the **amortisation method and interest rates** applicable on each calculation date of the WAM should **remain constant throughout the life of the loan**.
- b) **Zero prepayments** should be assumed.
- c) **Zero future defaults and delinquencies** of the underlying portfolio should be assumed.

Asset model. Methodology for performing underlying exposures. Zero prepayments

Assumptions to be made in order to reflect future prepayment scenarios:

- future levels of interest rates
- refinancing activity
- borrowers behaviour in presence of incentives or penalties
- original lender's prepayment experience
- specific terms of the loan products

To avoid **undesirable complexity and variability** in the results of the calculation of WAM, zero prepayments should be assumed on the performing portfolio

Questions

- **Question 3:** Do you agree that zero prepayments should be assumed on the performing portfolio for calculating the WAM of a tranche? Do you think that such assumption has a significant impact on the calculation of risk-weighted exposure amounts for certain asset classes or for certain tranches, depending also on their seniority? If so, please provide evidence supporting your views.
- **Question 4:** Do you agree that zero defaults should be assumed on the performing portfolio for calculating the WAM of a tranche? Do you think that such assumption has a significant impact on the calculation of risk-weighted exposure amounts for certain asset classes or for certain tranches, depending also on their seniority? If so, please provide evidence supporting your views.

Asset model. Methodology for non-performing underlying exposures

NPEs already existing at the time of the calculation of the WAM:

- **Principal and interest payments shall be assumed zero**, no loan will cure in the future
- **Recovery rate:**
 - IRB: **1- LGD**
 - If not: **1 - the average historical loss rate** observed during the last 5 years for the asset class and jurisdiction. If not available from reliable sources:
 - **50% loss rate** for senior non-retail securitised exposures and for retail securitised exposures, and
 - **100% loss rate** for non-senior non-retail securitised exposures.
- **Recovery timing** : the average historical workout period observed in the last 5 years in the same asset class and jurisdiction.
 - Where that information were not available, the longest historical observed work-out period
 - Where none of these information were available, all the recoveries will take place at the final legal maturity of the transaction.

Questions

- **Question 5:** Do you consider the assumption that, in the case of the **existing non-performing exposures at the time of the calculation of WAM**, the **principal and interest payments** in respect of such exposures throughout the life of the securitisation **should be assumed zero**, and the asset model should also assume that **no exposure will cure in the future**, reasonable? If not, would the added complexity introduced by a differentiated modelling of payments received on non-performing exposures be justified in terms of the impact on risk-weighted exposure amounts? If so, could you provide evidence supporting your views? [Please substantiate your views.]

Traditional securitisation. Liability model

- Should accurately reflect the **contractual terms and conditions** of the transaction as defined in the securitisation transaction documentation
- Should take into account the cash flows deriving from:
 - Hedging arrangements entered into by the SSPE
 - Liquidity facilities
 - reserve funds or
 - excess spread trapping mechanisms

Traditional securitisation. Liability model



- **Optional contractual features** (except clean-up calls) that would reduce the maturity of the tranche should not be considered in the calculation of the WAM.
- The **contractual triggers** modifying the priority of payments of the transaction should be considered only when they have been activated at the date of calculation of the WAM

Synthetic securitisation. Contractual payments due under the tranche.

- Should be determined **in accordance with the contractual terms and conditions of the transaction** as defined in the securitisation documentation
- Where the contractual payments **are contingent to the size of the tranche providing credit protection**
 - Institutions **should model the outstanding balance of the tranches, based on that of the securitised portfolio** for the coming periods, until the final legal maturity of the transaction, **following the methodology set out for performing securitised exposures in traditional securitisations**
 - ▶ As **no defaults** are proposed to be taken into account for the calculation of WAM in traditional securitisations, the implication in synthetic securitisations is that no modelling of futures losses covered by the protection contract should be considered for the calculation of WAM either.

Synthetic securitisation. Contractual payments due under the tranche

Not contingent on the size of the tranche to which positions with credit protection are associated:

- **Option a)** Take into account the periodic payments of the premia as set out in the contract
- **Option b)** additionally for funded credit protection institution **should model** the outstanding balance of the securitised portfolio and the corresponding size of the protected tranches, for the purpose of determining the reimbursement of the collateral and its interest and coupons for the coming periods
- where those **periodic payments of the premia are front-loaded**, meaning that more than half of the total premia is expected to be paid before half the duration of the contract, **or the premium is paid up-front**, institutions **should not consider any contractual payments applicable for the purposes of WAM**

Questions

- **Question 6:** In **synthetic securitisations**, do you agree that **no modelling of future non-occurred losses** should be allowed in order to calculate the future outstanding balance of the underlying portfolio and the tranches? Or do you think that the modelling of losses should be taken into account? If so, could you provide the rationale supporting your views and the impact on risk-weighted exposure amounts?
- **Question 7.** In **synthetic securitisations**, do you agree that only clean-up calls in accordance with Article 245(4)(f) of the CRR should be taken into account to determine the WAM? In your view, should **time calls**, which can be exercised by the protection buyer after the WAL of the underlying portfolio (as defined in paragraph 53 of the Guidelines on the STS criteria for ABCP securitisation), also be taken into account? If so, could you provide the rationale supporting your views and the impact on risk-weighted exposure amounts?

Implementation and use of the WAM model

- Institutions may rely on **third parties data and model providers**
 - **Due diligence** to ensure both the compliance of the third party with the guidelines and the market expertise of the third party in cash flow modelling and its thorough understanding of securitisation.
 - **Legal responsibility.** The involvement of a third party should not in any way shift away the ultimate legal responsibility from institutions

Implementation and use of the WAM model

- Models to be monitored and updated **whenever necessary**
- **Initial review.**
 - By the staff of the institution performing the validation function, who should be separate from the staff responsible for model design or development, or
 - By an external independent auditor,
 - all of which should have a demonstrable expertise in cash flow modelling and a thorough understanding of securitisation
- **Annual review on a sample basis** by the staff of the institution performing the validation function or the internal audit

Question 8. What are your **views on the model validation and quality review of the asset and liability models and on due diligence on third party model providers?** Do you perceive it as too burdensome? If so, please provide alternative proposals to account for compliance of third party model providers with these guidelines and for the assessment of the quality and accuracy of the asset and liability models

Question 9. Are there **any other issues** that you would consider necessary to comment on? If so, please provide them with the alternatives to the wording adopted in these draft guidelines



Thank you!



EUROPEAN BANKING AUTHORITY

Floor 46, One Canada Square, London E14 5AA

Tel: +44 207 382 1776

Fax: +44 207 382 1771

E-mail: info@eba.europa.eu

<http://www.eba.europa.eu>