



RE-PROPOSED RULE ON ENTERPRISE CAPITAL CREDIT RISK TRANSFER

JULY 2020

CREDIT RISK TRANSFERS

- ❑ CRT transactions transfer potential credit losses on single-family and multifamily mortgage exposures from an Enterprise to private parties.
- ❑ Therefore, an Enterprise may benefit from calculating risk-weighted assets for its retained exposure to the CRT rather than the risk-weighted asset amounts for the pool of underlying mortgage exposures.
- ❑ The proposed CRT approach contains the following enhancements to the CRT methodology in the 2018 proposal:
 - A prudential risk weight floor of 10%;
 - Effectiveness adjustments for counterparty risk, loss timing, and the potential that CRT is less effective than equity capital; and
 - Operational criteria and disclosure requirements to mitigate the risk that the terms or structure of the CRT would not be effective in transferring credit risk.

CRT – RISK WEIGHT FLOOR

- ❑ The proposed rule would assign a prudential risk weight floor of 10 percent to any retained CRT exposure.
- ❑ Under the 2018 proposal, a retained CRT exposure with an attachment point greater than the sum of net credit risk capital requirement and expected loss would have had a risk weight of 0 percent, even though these exposures do pose some risk.
- ❑ The prudential floor avoids treating any exposure as posing no credit risk.
- ❑ The prudential floor is generally consistent with the U.S. banking framework, but less than the U.S. banking framework's 20 percent minimum risk weight for securitization exposures.
- ❑ FHFA sized the minimum risk weight for a CRT exposure to strike a balance between permitting CRT while also mitigating the safety and soundness, mission, and housing stability risk that might be posed by some CRT.

CRT – EFFECTIVENESS ADJUSTMENTS

- ❑ In the proposed CRT approach, an Enterprise would calculate adjusted exposure amounts for its retained CRT exposures to reflect the effectiveness of the CRT in transferring credit risk.
- ❑ Adjustments would be made for:
 - Overall effectiveness - this adjustment increases retained exposure by 10 percent to reflect that CRT transactions may not provide the same flexibility, fungibility, and loss-absorbing capacity as equity capital, as discussed by several commenters on the 2018 proposal;
 - Loss sharing effectiveness - this adjustment increases retained exposure to reflect the counterparty risk inherent in uncollateralized risk-in-force. Under the 2018 proposal, counterparty risk would have been assessed on the basis of estimated stress loss rather than total risk-in-force; and
 - Loss timing effectiveness - this adjustment increases retained exposure to better reflect any mismatch between lifetime losses on the underlying mortgage exposures and the duration of the CRT's coverage. Under the 2018 proposal, the loss timing adjustment applied uniformly to all tranches and did not change as the CRT coverage seasoned.

CRT – OPERATIONAL CRITERIA

- ❑ Consistent with the U.S. banking framework, FHFA is proposing operational criteria to mitigate the risk that the terms or structure of the CRT would not be effective in transferring credit risk.
- ❑ The operational criteria would mitigate this risk by, for example, prohibiting provisions that would allow for the termination of a CRT due to deterioration in the credit quality of the underlying exposures and ensuring clean-up calls relating to a CRT are limited to specified circumstances.
- ❑ FHFA’s operational criteria for CRT are somewhat less restrictive than those applicable to traditional or synthetic securitizations under the U.S. banking framework.
- ❑ To partially mitigate the safety and soundness risks posed by this less restrictive approach, FHFA would require an Enterprise to publicly disclose material risks to the effectiveness of the CRT in order to foster market discipline and FHFA’s supervision and regulation.

CRT – IMPLICATIONS

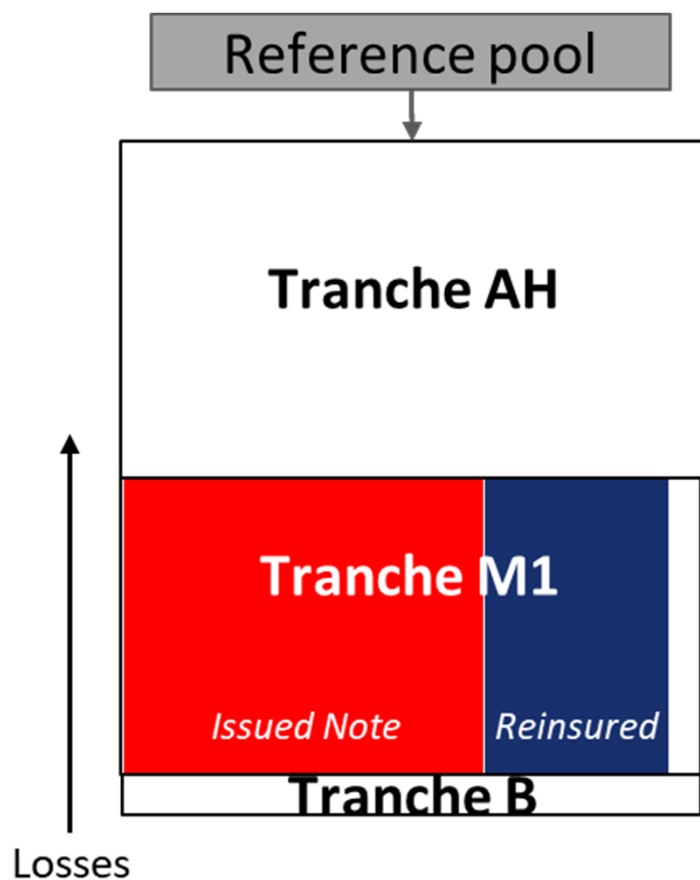
- ❑ Under these enhancements, FHFA generally would require more credit risk capital on a transaction-wide basis at the inception of a CRT than would be required if the underlying mortgage exposures were not in a CRT.¹

- ❑ This departure from strict capital neutrality is important to manage the potential safety and soundness risks of CRT, including:
 - Model risk associated with the calibration of the credit risk capital requirements of the underlying exposures, and the model risk posed by the calibration of the loss-timing and counterparty risk adjustments;
 - Structural and other risks posed by complex CRT; and
 - Regulatory capital arbitrage through CRT.

- ❑ FHFA estimates that the enhancements would lead to a 46% reduction in capital relief for all outstanding CRTs as of 2019Q3, compared with the 2018 proposal.

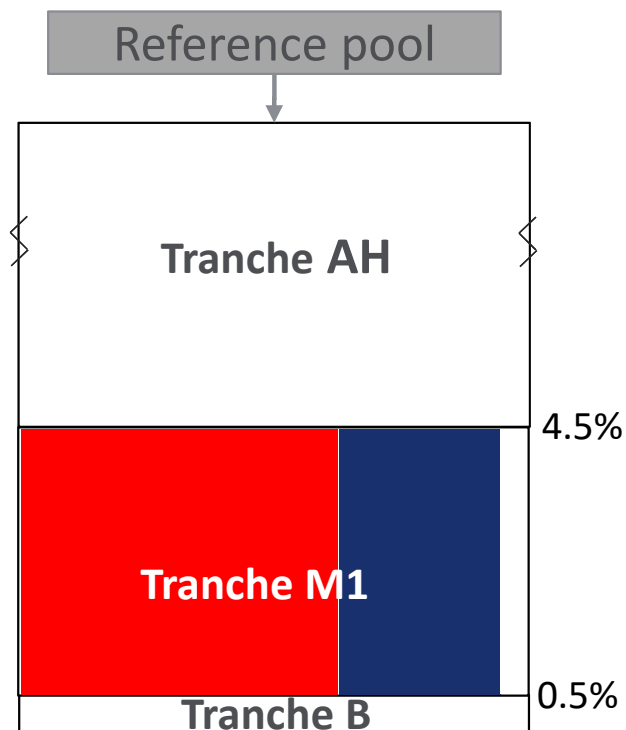
¹ An Enterprise may elect to not recognize a CRT for purposes of the credit risk capital requirements and instead hold risk-based capital against the underlying exposures (as under the U.S. banking framework).

CRT EXAMPLE



- ❑ The reference pool consists of loans acquired by an Enterprise and deposited into an MBS.
- ❑ Credit and prepayment performance of the reference pool determine the performance of the CRT's tranches.
- ❑ Tranche B absorbs losses first. Tranche M1 absorbs losses after tranche B and before tranche AH.
- ❑ An Enterprise typically retains tranches B and AH, and 5 percent of tranche M1. The remainder of tranche M1 is typically divided between issued notes through capital markets and reinsurance coverage.

CRT EXAMPLE: INPUTS



CRT Coverage

Coverage term 10 years

Reference Pool

Single-family loans \$1 billion, fixed-rate 30 year, 60%<OLTV<=80%

Credit RWA_§ \$343.8 million

Expected loss (EL_§) \$2.5 million

Capital for reference pool loans (K_A) 2.75%

Expected Loss (AggEL_§) 0.25%

Tranche Ownership

AH and B Retained by Enterprise.
M1 60% capital markets (red), 35% reinsured (blue), and 5% retained (white).

Reinsurance

Reinsurer Collateral: 20% of risk-in-force, Haircut: 5.2%.

CRT CAPITAL RELIEF: 2018 PROPOSAL

#1 Distribute credit risk capital

M1 credit risk capital = $(K_A + \text{Aggregate EL}) - \text{Tranche M1 Attachment}$

$$2.5\% = (2.75\% + 0.25\%) - 0.5\%$$

#2 Capital relief accounting for ownership

Capital markets 1.5% = 60% x 2.5%

Reinsurance 0.88% = 35% x 2.5%

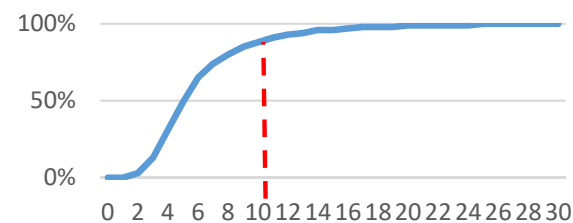
Total **2.38%**

#3 Capital relief updated to account for loss timing

Capital markets 1.32% = 88% x 1.5%

Reinsurance 0.77% = 88% x 0.88%

Total **2.09%**



#4 Capital relief updated to account for counterparty credit risk

Counterparty credit risk capital = $(0.77\% - 20\% \times (4.5\% - 0.5\%) \times 35\%) \times 5.2\%$

$$= 0.025\%$$

#5 Capital relief

Capital relief = $1.32\% + 0.77\% - 0.025\% = 2.09\% - 0.025\%$

$$= 2.07\%$$

#6 Post-CRT credit risk weighted assets

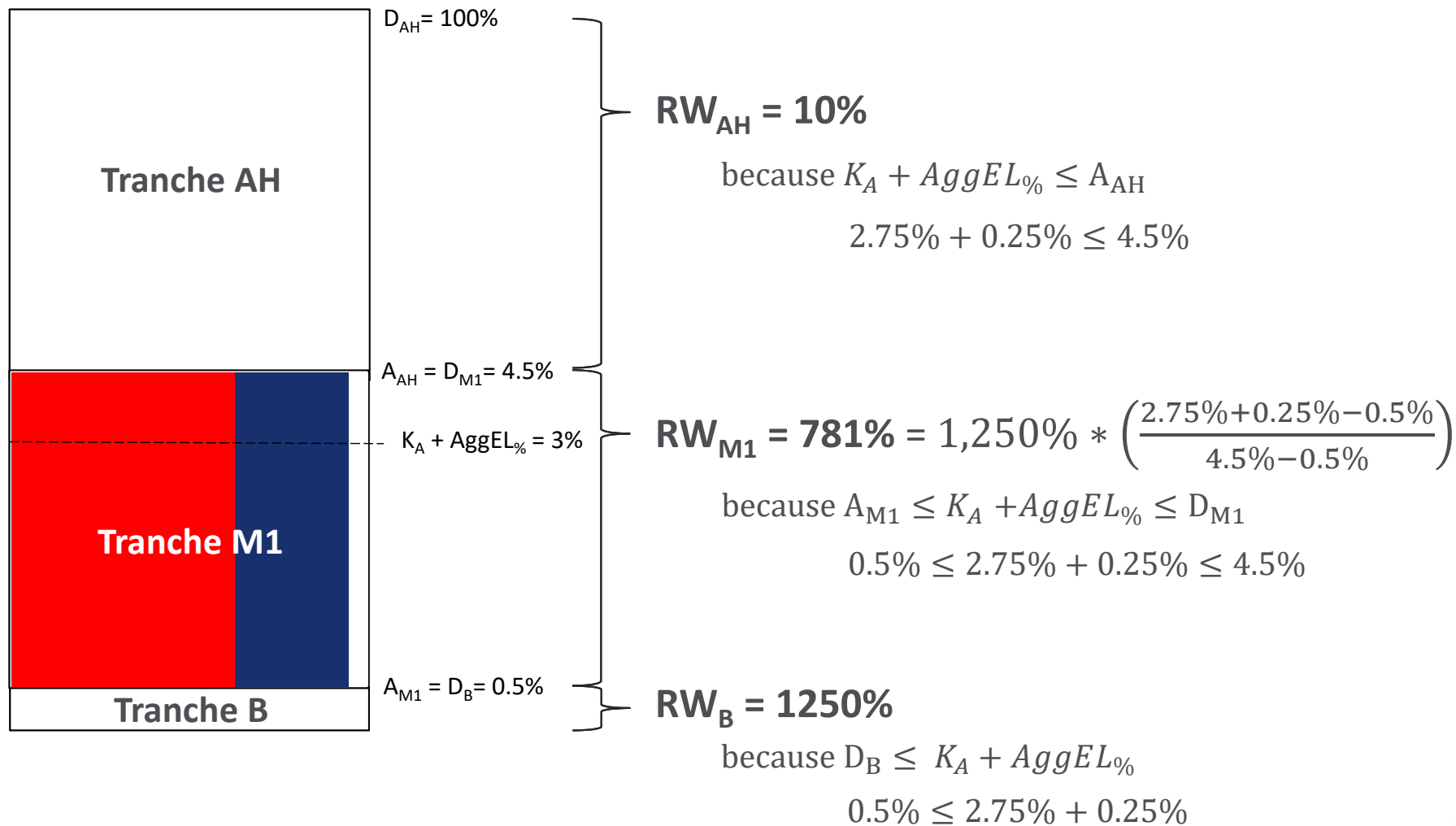
Post-CRT Credit RWA = Pre-CRT Credit RWA - Capital Relief*UPB/8%

$$= \$343.8 \text{ million} - 258.8 \text{ million} = \$85 \text{ million}$$



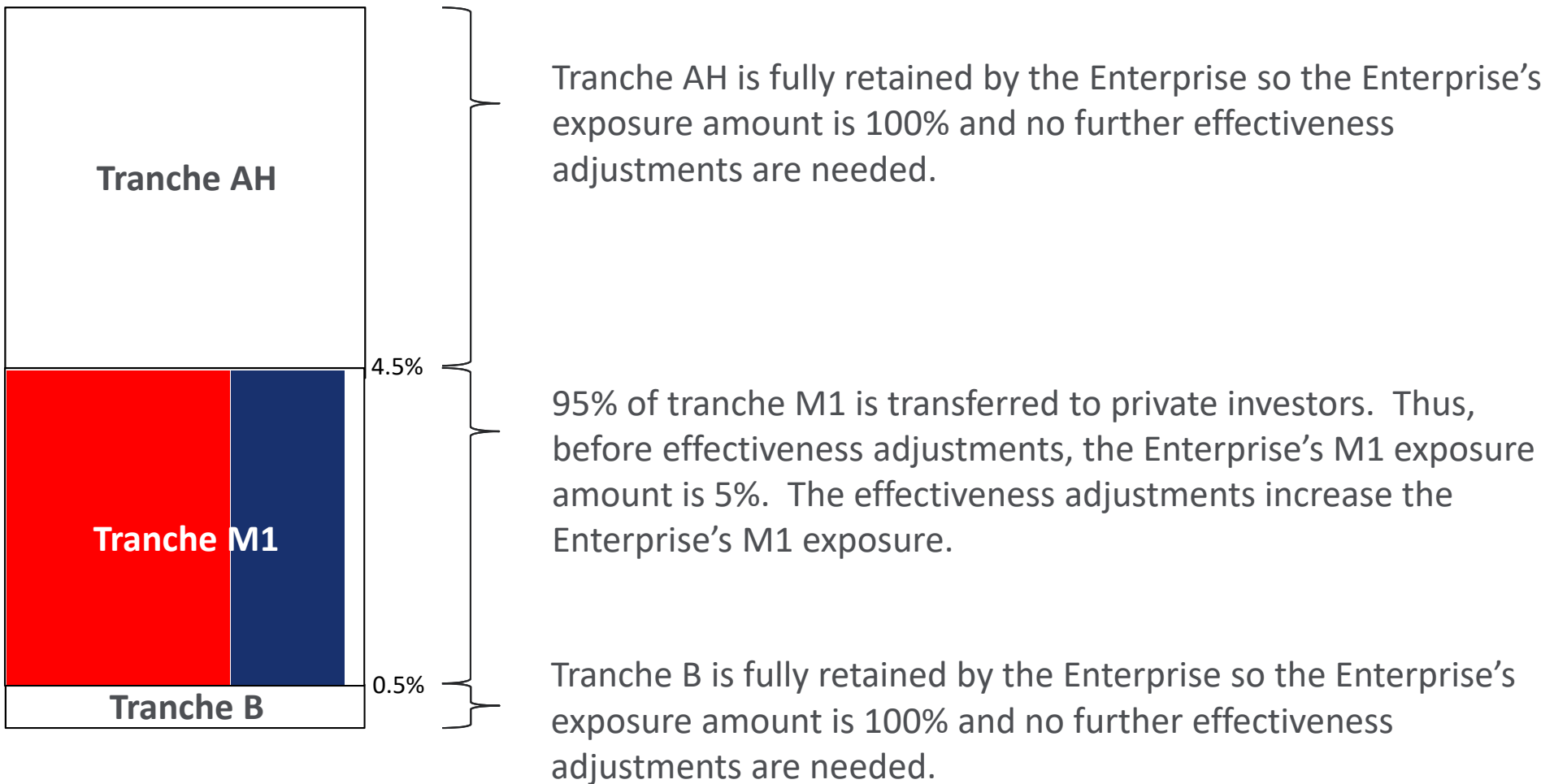
CRT EXAMPLE: PROPOSED RULE

#1: Calculate risk-weights for each tranche



CRT EXAMPLE: PROPOSED RULE, CONTD.

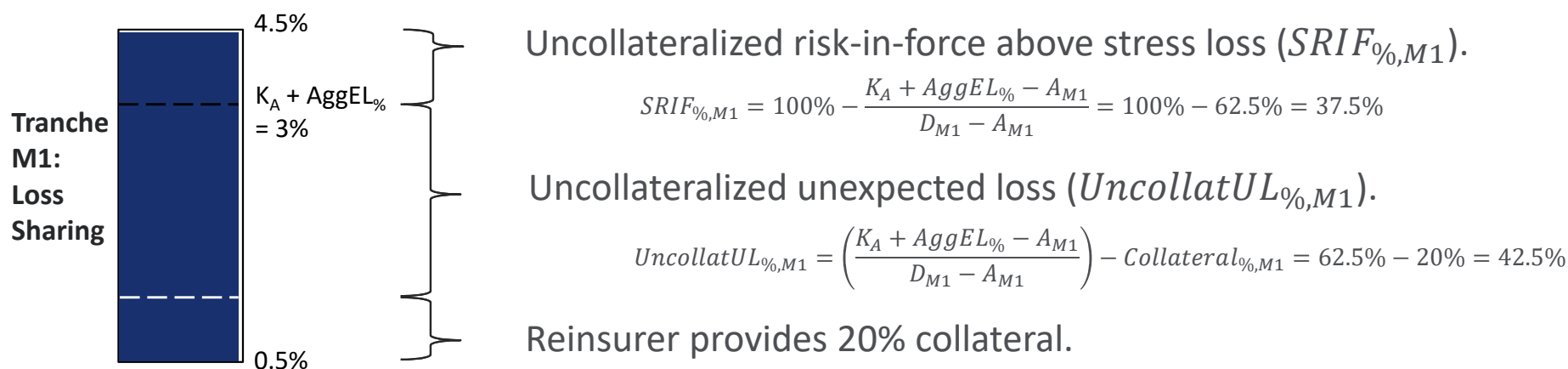
#2: Calculate exposure amounts for each tranche



CRT EXAMPLE: PROPOSED RULE, CONTD.

#2a: Adjust Enterprise's exposure for loss sharing effectiveness (counterparty risk)

The Enterprise's loss sharing exposure from tranche M1 is adjusted for uncollateralized risk-in-force, or the sum of uncollateralized unexpected loss and uncollateralized risk-in-force above stress loss. The loss sharing adjustment does not apply to the capital markets portion of the tranche (red area) because it is fully collateralized.



$$LSEA_{\%,M1} = 100\% - Haircut_{M1} * \frac{(UncollatUL_{\%,M1} * 1250\% + SRIF_{\%,M1} * 10\%)}{RW_{M1}}$$

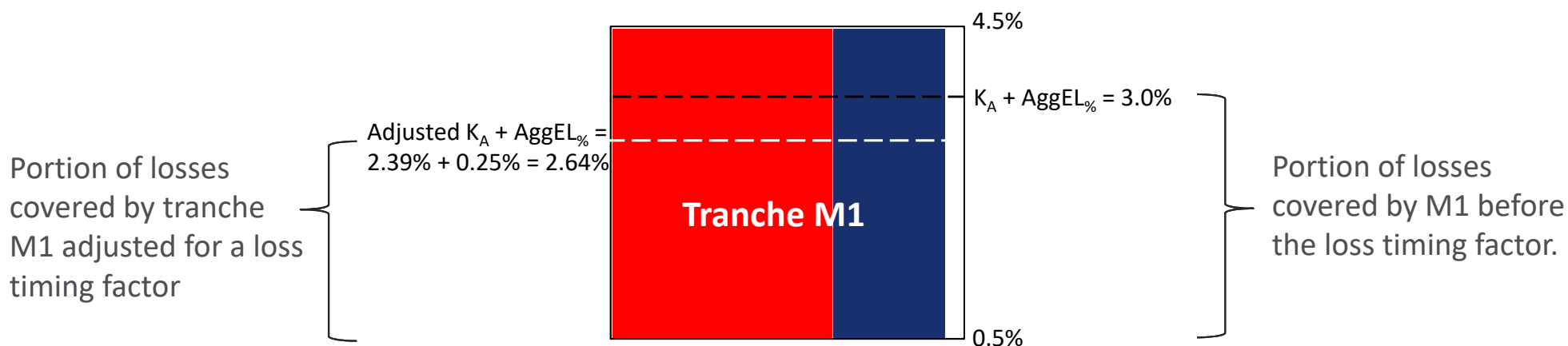
$$= 100\% - 5.2\% * \frac{(42.5\% * 1250\% + 37.5\% * 10\%)}{781\%} = 96.4\%$$

The loss sharing effectiveness adjustment (LSEA) increases the Enterprise's tranche M1 exposure by 3.6% of the portion of M1 covered by loss sharing (blue area).

CRT EXAMPLE: PROPOSED RULE, CONTD.

#2b: Adjust exposure for loss timing effectiveness

Loss timing effectiveness adjustment (LTEA) addresses the mismatch between lifetime losses on the mortgage exposures underlying the CRT and the CRT's duration. The LTEA reflects the ratio between the portion of losses covered by tranche M1 adjusted for a loss timing factor to the portion of losses covered by M1 before the loss timing factor.



$$AdjustedK_A = (K_A + AggEL_{\%}) * (Loss\ Timing\ Factor) - AggEL_{\%} = (2.75\% + 0.25\%) * 88\% - 0.25\% = 2.39\%$$

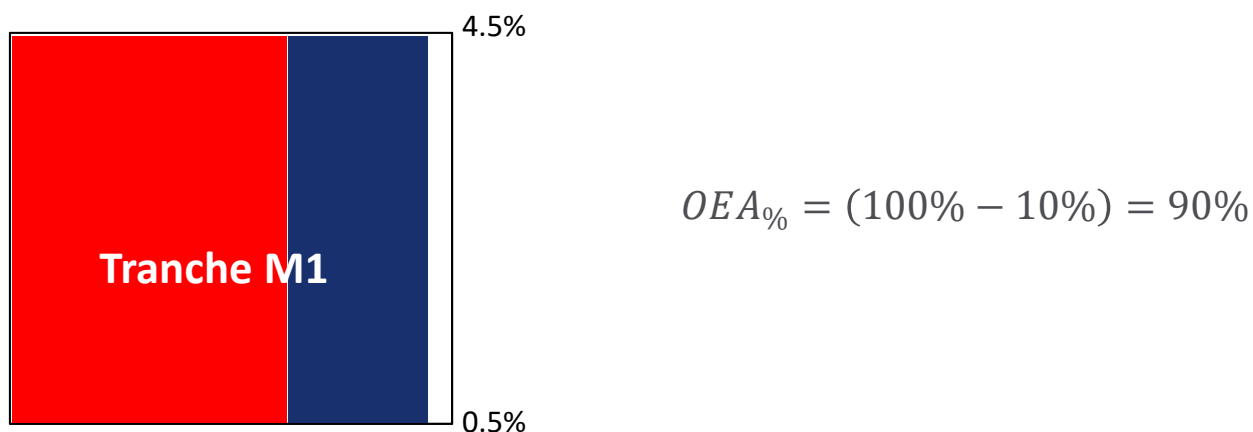
$$LTEA_{\%,M1} = \frac{(AdjustedK_A + AggEL_{\%} - A_{M1})}{(K_A + AggEL_{\%} - A_{M1})} = \frac{(2.39\% + 0.25\% - 0.5\%)}{(2.75\% + 0.25\% - 0.5\%)} = 85.6\%$$

The LTEA increases the Enterprise's tranche M1 exposure by 14.4% of the portion of M1 covered by private investors (red and blue areas).

CRT EXAMPLE: PROPOSED RULE, CONTD.

#2c: Adjust exposure for overall effectiveness

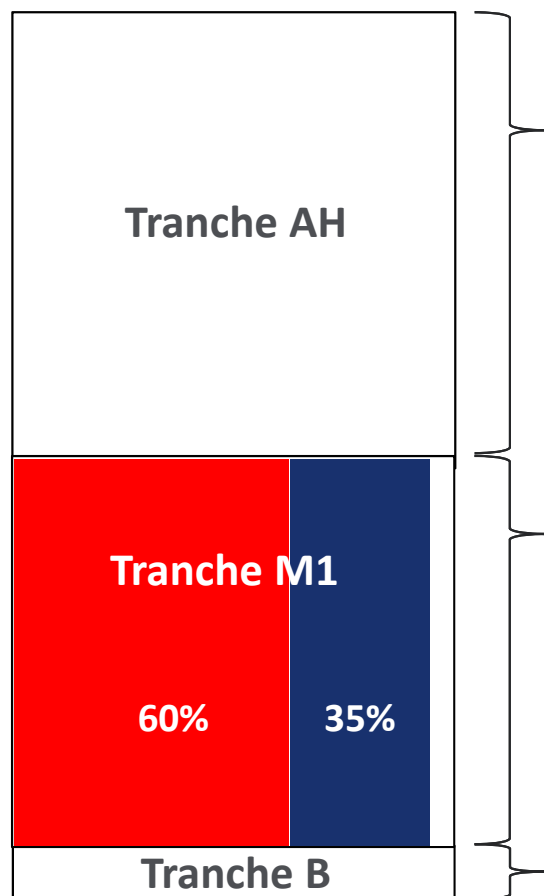
Overall effectiveness adjustment (OEA) increases retained exposure to reflect that CRT transactions may not provide the same flexibility, fungibility, and loss-absorbing capacity as equity capital, as discussed by several commenters on the 2018 proposal.



The OEA increases the Enterprise's tranche M1 exposure by 10% of the portion of M1 covered by private investors (red and blue areas).

CRT EXAMPLE: PROPOSED RULE, CONTD.

#3: Calculate an Enterprise's tranche-level adjusted exposures (EAE)



Tranche AH is fully retained, therefore the Enterprise's tranche AH adjusted exposure is 100%.

$$EAE_{AH} = 100\%$$

95% of tranche M1 is transferred to private investors, 60% through a capital markets (CM) transaction and 35% through a loss sharing transaction (LS). The LTEA, LSEA, and OEA adjustments raise the Enterprise's retained exposure from 5.0% to 27.8%.

$$\begin{aligned} EAE_{M1} &= 100\% - CM_{\%,M1} * (LTEA_{\%,M1} * OEA_{\%}) - LS_{\%,M1} * (LSEA_{\%,M1} * LTEA_{\%,M1} * OEA_{\%}) \\ &= 100\% - 60\% * (85.6\% * 90\%) - 35\% * (94.6\% * 85.6\% * 90\%) = 27.8\% \end{aligned}$$

Tranche B is fully retained, therefore the Enterprise's tranche B adjusted exposure is 100%.

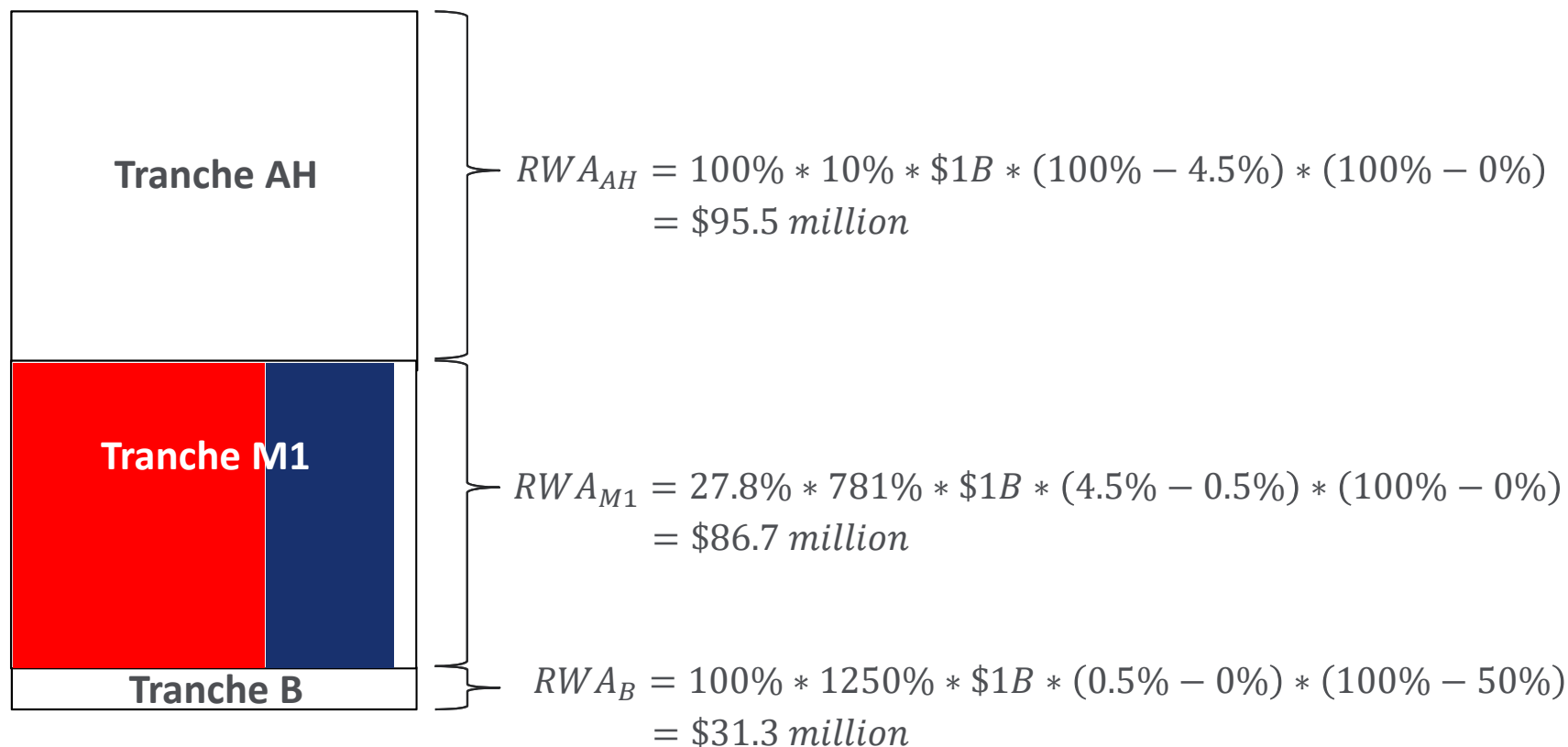
$$EAE_B = 100\%$$

CRT EXAMPLE: PROPOSED RULE, CONTD.

#4: Calculate an Enterprise's tranche-level RWA

Tranche-level RWAs after risk transfer combine adjusted exposures, risk-weights, UPB, attachment and detachment points, and the share of each tranche covered by expected loss.

$$RWA_{Tranche} = EAE_T * RW_T * UPB_{\$} * (D_T - A_T) * (100\% - \%EL_T), \text{ where T indexes tranche.}$$



CRT EXAMPLE: PROPOSED RULE, CONTD.

#5: Calculate an Enterprise's post-CRT credit RWA and credit capital relief

Post-CRT credit RWAs are the sum of tranche-level RWAs.

$$\begin{aligned} \text{PostCRT Credit RWA} &= RWA_{AH} + RWA_{M1} + RWA_B \\ &= \$95.5 \text{ million} + \$86.7 \text{ million} + \$31.3 \text{ million} \\ &= \$213.5 \text{ million} \end{aligned}$$

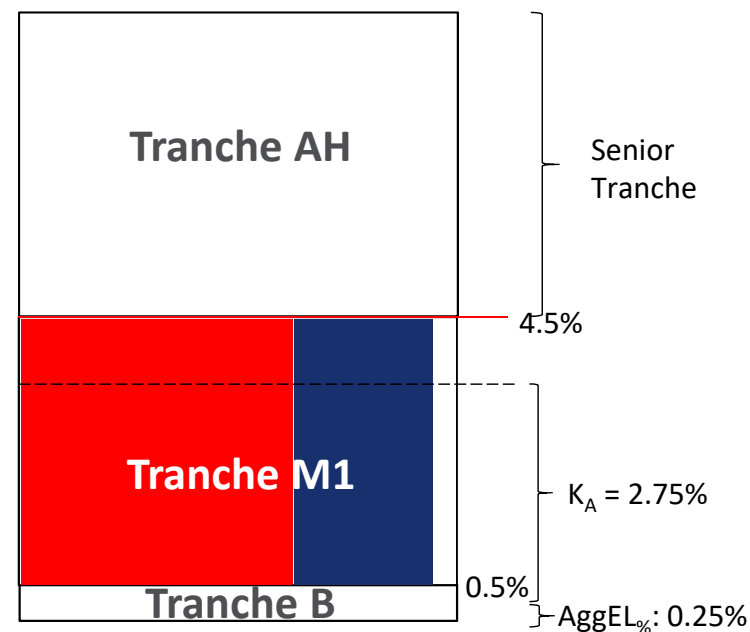
Credit capital relief is the difference between pre-CRT credit RWA (\$343.8 million) and post-CRT credit RWAs (\$213.5 million).

$$\begin{aligned} \text{CapitalRelief} &= \text{PreCRT Credit RWA} - \text{Post CRT Credit RWA} \\ &= \$343.8 \text{ million} - \$213.5 \text{ million} \\ &= \$130.3 \text{ million} \end{aligned}$$

CRT – EXAMPLE, SUMMARY COMPARISON

Comparing the 2018 proposal to the proposed rule, using the simplified illustrative CRT example from the 2018 proposal, shows a reduction in transferred RWA of \$129 million.

	RWA _§ (\$millions)		
	Transferred	Retained	Total
2018 Proposal	\$ 259	\$ 85	\$ 344
Enhancements			
Tranche-level floor	(96)	96	
Overall effectiveness	(25)	25	
Loss timing and loss sharing effectiveness	(8)	8	
Total change from enhancements	(129)	129	
Proposed Rule	\$ 130	\$ 214	\$ 344



APPENDIX



COMPARISON OF RBC PROPOSALS: BY RISK CATEGORY

Enterprises Combined	2018 Proposal As of				Proposed Rule As of		
	9/30/2017		9/30/2019		9/30/2019		
	\$ in billions	% of Total	\$ in billions	% of Total	\$ in billions	% of Total	% of Adjusted Total Assets
Gross Credit Risk			\$127.0		\$151.9		2.50%
Loan-Level Credit Enhancement			<u>(17.9)</u>		<u>(17.0)</u>		<u>(0.28%)</u>
Net Credit Risk	\$112.0		\$109.1		\$134.9		2.22%
CRT Impact, net	<u>(21.5)</u>		<u>(41.3)</u>		<u>(22.1)</u>		<u>(0.36%)</u>
Post-CRT Net Credit Risk	90.5	50%	67.8	50%	112.8	84%	1.86%
Market Risk	19.4	11%	13.6	10%	13.6	10%	0.22%
Going-Concern Buffer	39.9	22%	43.5	32%	0.0	0%	0.00%
Operational Risk	4.3	2%	4.6	3%	8.7	6%	0.14%
Deferred Tax Assets	<u>26.7</u>	<u>15%</u>	<u>7.4</u>	<u>5%</u>	<u>0.0</u>	<u>0%</u>	<u>0.00%</u>
Total Capital Requirement	\$180.9	100%	\$136.9	100%	\$135.1	100%	2.22%
Prescribed Capital Conservation Buffer Amount (PCCBA)					98.8		1.63%
Total Capital Requirement and PCCBA	\$180.9		\$136.9		\$233.9		3.85%
Adjusted Total Assets	\$5,619.9		\$6,072.0		\$6,072.0		
Total Capital Requirement and PCCBA/ Adjusted Total Assets	3.22%		2.25%		3.85%		

Notes:

Fannie Mae: Original Proposal as of 9/30/2019 - \$85.8B (2.42% of Adjusted Total Assets) vs New Proposal - \$145B (4.1% of Adjusted Total Assets)

Freddie Mac: Original Proposal as of 9/30/2019 - \$51.1B (2.02% of Adjusted Total Assets) vs New Proposal - \$89B (3.5% of Adjusted Total Assets)



OPERATIONAL CRITERIA

- The credit risk transfer is an eligible CRT structure.
- The Enterprise transfers credit risk associated with the underlying exposures to one or more third parties, and the terms and conditions in the credit risk transfer employed do not include provisions that:
 - Allow for the termination of the credit risk transfer due to deterioration in the credit quality of the underlying exposures;
 - Require the Enterprise to alter or replace the underlying exposures to improve the credit quality of the underlying exposures;
 - Increase the Enterprise's cost of credit protection in response to deterioration in the credit quality of the underlying exposures;
 - Increase the yield payable to parties other than the Enterprise in response to a deterioration in the credit quality of the underlying exposures; or
 - Provide for increases in a retained first loss position or credit enhancement provided by the Enterprise after the inception of the credit risk transfer;
- The Enterprise obtains a well-reasoned opinion from legal counsel that confirms the enforceability of the credit risk transfer in all relevant jurisdictions; and
- Any clean-up calls relating to the credit risk transfer are eligible clean-up calls.
- The Enterprise includes in its periodic disclosures a reasonably detailed description of the material recourse or other risks that might reduce the effectiveness of the credit risk transfer in transferring the credit risk on the underlying exposures to third parties.