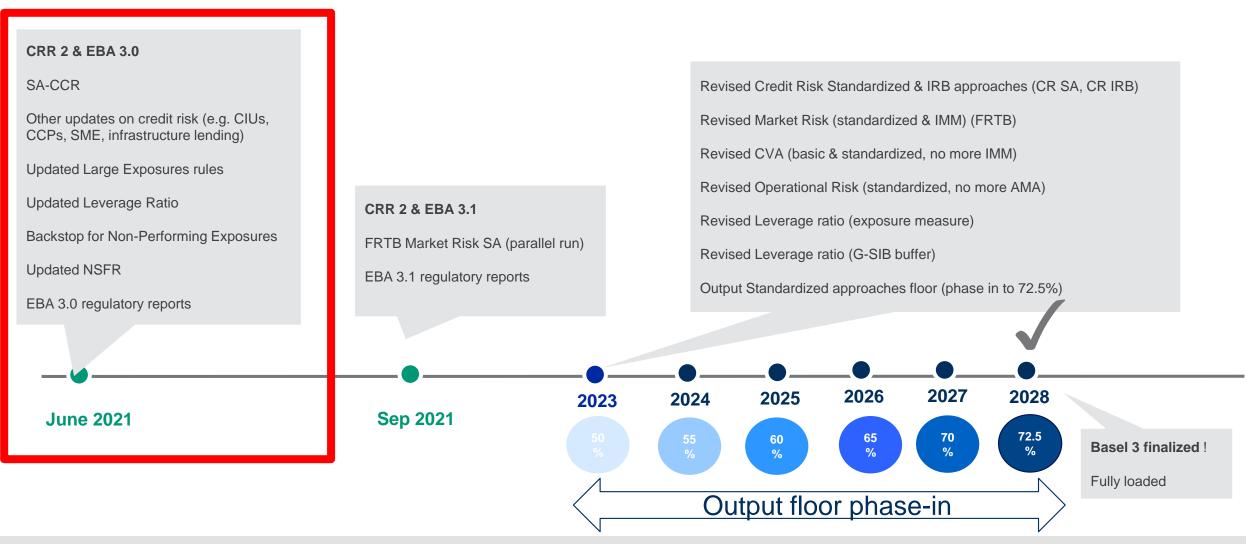
Moody's analytics

Better Faster Decisions

Moody's Analytics User Webinar Series CRR2 & EBA 3.0

"Final Basel 3" (Basel 4) delayed to 1st January 2023 but in EU CRR2 EBA3.0 is still plan for June 2021



MOODY'S ANALYTICS

We are migrating our "on-premise" award winning "RiskAuthority™" software suite to the cloud = our "Banking Cloud" offering

Banking Cloud is our new suite of SaaS applications to help banks smoothly transition to the cloud and benefit from reduced total cost of ownership and better quality of service

We provide a migration path for our existing on-premise "RiskAuthority" software customers to SaaS Banking Cloud

Moody's Analytics RiskFoundation™/RiskAuthority software



On **premise or private cloud**deployment, **Oracle based**Banks can "lift and shift" Moody's software to your own private cloud

Moody's Analytics
Banking Cloud



New generation of Software-as-a-Service
(SaaS) applications hosted and managed by
Moody's Analytics to allow customers to
smoothly and cost effectively benefit from cloud
native technology and Oracle-free
applications



Agenda

- CRR2 Credit Risk & Leverage Ratio
- **CRR2 NSFR**
- EBA 3.0 reports



MOODY'S ANALYTICS



Moody's Analytics User Webinar Series CRR2 & EBA 3.0 Credit Risk and Leverage Ratio

Agenda

- 1 EBA timeline
- Focus on some recent RiskAuthority Credit Risk & Leverage Ratio updates for CRR2 & EBA 3.0
- Banking Cloud Credit Risk & Leverage Ratio roadmap for CRR2 & EBA 3.0



CRR2 regulatory timeline

Timeline for the main changes to the reporting framework to meet CRR2 and BRRD2 reporting mandates in version 3.0 framework release



^{*} Publication of CP on MREL/TLAC reporting and disclosure in November

MOODY'S ANALYTICS CRR2 & EBA3.0

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EBA has finalized SA-CCR in CRR2

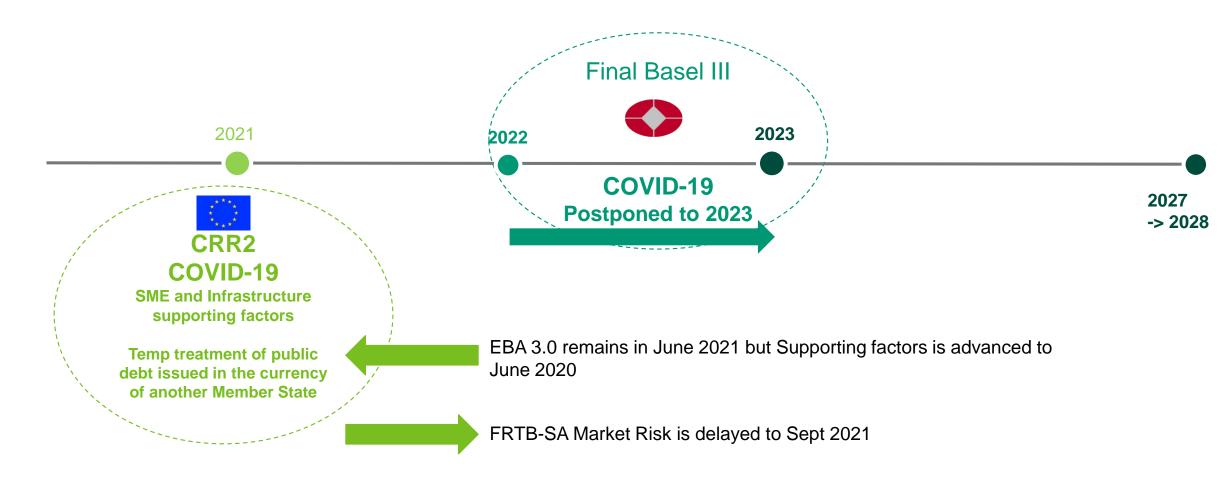


CRR2 REGULATION (EU) 2019/876

- » CRR2 final on 20 May 2019, amending CRR
- » EBA-RTS-2019-02 was published on 18 Dec 2019

COREP EBA 3.0 was finalized in June 2020

Impacts of COVID-19



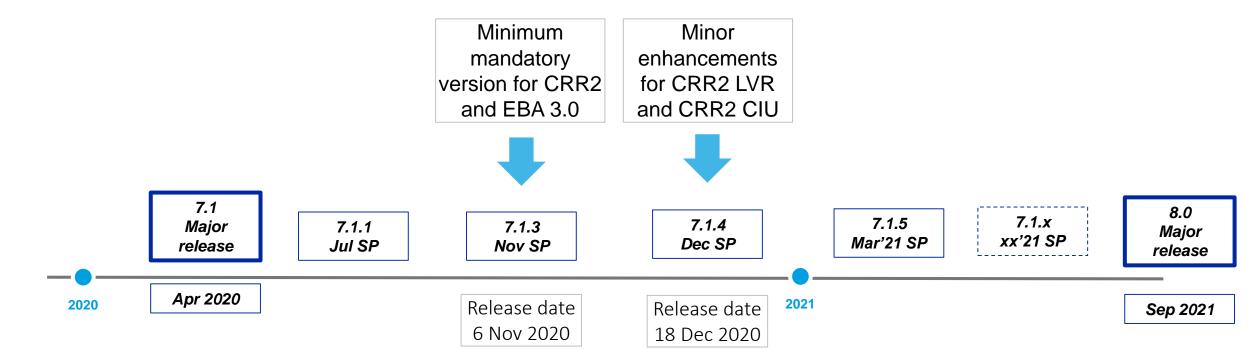
RiskAuthority™ v7.1.3 is the Minimum required version for CRR2 and EBA 3.0



REGULATION (EU) 2019/876 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 May 2019

amending Regulation (EU) No 575/2013 as regards the leverage ratio, the net stable funding ratio, requirements for own funds and eligible liabilities, counterparty credit risk, market risk, exposures to central counterparties, exposures to collective investment undertakings, large exposures, reporting and disclosure requirements, and Regulation (EU) No 648/2012

RiskAuthority™ Post 7.1 patches



MOODY'S ANALYTICS CRR2 & EBA3.0

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Availability of the CRR2 functionalities

- CRR2 SME EU supporting factor and infrastructure lending supporting factor
- ✓ CRR2 Large Exposures
- CRR2 Exposures to CCP ("capital requirement for clearing member default fund contribution")
- CRR2 Counterparty Credit Risk (SA-CCR)
- CRR2 Prudential backstop for Non-Performing Exposures
- CRR2 Exposures to shares of CIUs ("look-through, mandate-base, fallback")
- CRR2 Leverage Ratio

- Available in v7.1
- Available in v7.1 with enhancements in v7.1.3
- Available in v7.1 with enhancements in v7.1.3 and/or v7.1.4

MOODY'S ANALYTICS

CRR2 SME EU supporting factor & Infrastructure supporting factor

CRR2 – SME EU supporting factor - updated Art 501

A new formula- based SME EU RWA scaling factor

- The SME total group exposure's portion <u>below the threshold of Euro 2,5 millions will receive the SME supporting</u> <u>factor of 0.7619</u>, whereas,
- » the portion of exposure exceeded the threshold of Euro 2,5 millions will receive the SME supporting factor of 0.85.

$$RWEA^* = RWEA \cdot \frac{min\{E^*; EUR\ 2\ 500\ 000\} \cdot 0,7619 + max\{E^* - EUR\ 2\ 500\ 000;\ 0\} \cdot 0,85}{E^*}$$

The denominator is the total group exposure E*

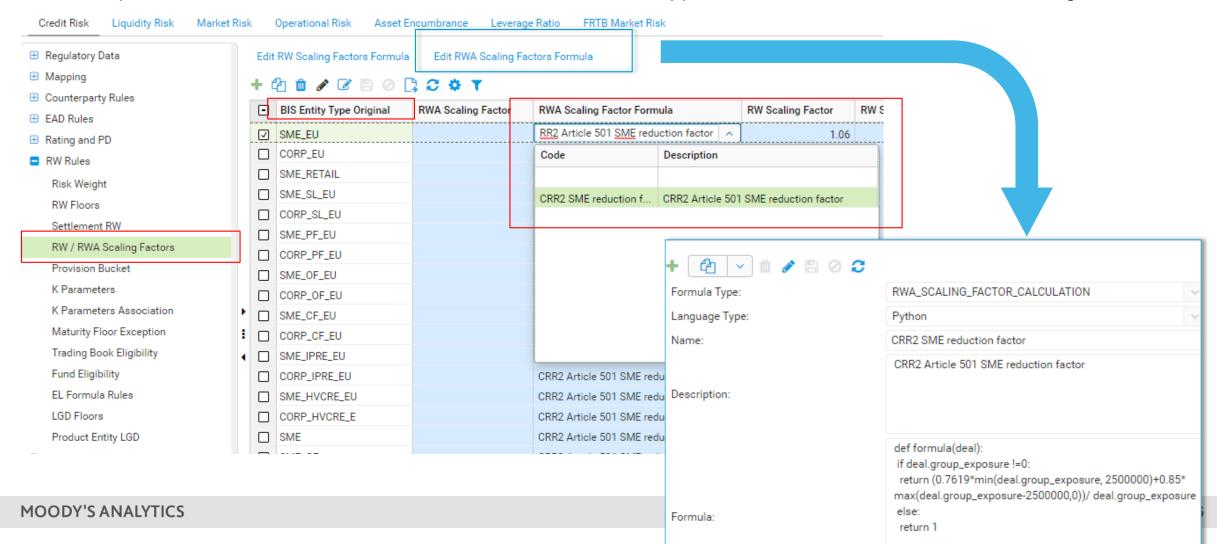
CRR2 – Infrastructure project – NEW Article 501a

The own funds requirements for exposures to entities that operate or finance physical structures or support essential public services must be multiplied by a factor of 0.75

Enhancement of BIS_SCALING_FACTOR

Available in RiskAuthority™ v7.1

- » New formula-based RWA scaling factor
- New input columns such as BIS_ENTITY_TYPE_ORIGINAL for application of the factor to the SME EU obligor



CRR2 Counterparty Credit Risk

New Hedging Set for inflation

Regulatory reference



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BCBS

- interest rate
 - hedging set for interest rate per currency (non-basis)

CRR2 Article 277a



- interest rate
 - hedging set for interest rate per currency (non-basis)
 - hedging set for inflation, per currency

New Hedging Set for inflation Data model changes

Table Name	Columns	Values
SWAP(*)	PAY_INDEXATION_RULE REC_INDEXATION_RULE	RCPN: Real Coupon YONY: Period On Period OATI: Oat-i
FUTURE, OPTIONS, FRA, CAPFLOOR, EQUITY_SWAP	INDEXATION_RULE	RCPN: Real Coupon YONY: Period On Period OATI: Oat-i
DEAL_IMPORT	INDEXATION_RULE_1 INDEXATION_RULE_2	RCPN: Real Coupon YONY: Period On Period OATI: Oat-i
SACCR_DETAIL	IS_INFLATION	T/F

MOODY'S ANALYTICS CRR2 & EBA3.0

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New Hedging Set for inflation

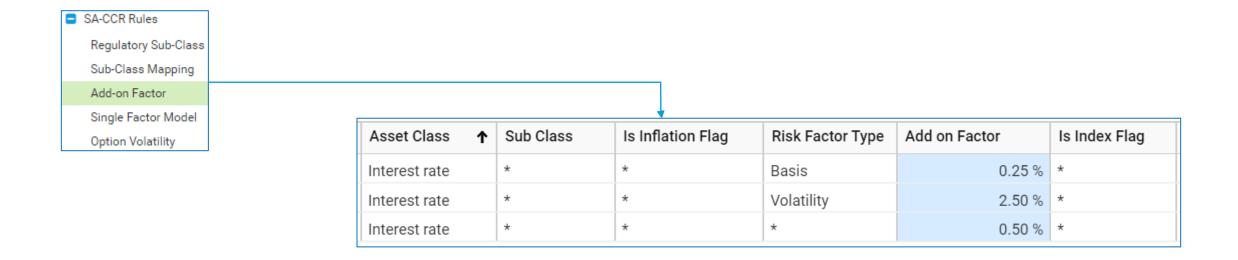
Supervisory option and Configuration files

» New Supervisor Option

Split IR Hedging Set to Inflation and Non-inflation:



» New column in SACCR_ADD_ON_FACTOR config



Supervisory delta formula for interest rate options when the interest rate is negative, includes a lambda component

Available in RiskAuthority™ v7.1

» Final Draft RTS, Art 279a(3)(a)

Supervisory delta	Bought	Sold			
Call options	$+N \cdot \left(+ \frac{\ln\left(\frac{P_j}{K_j} + \frac{\lambda_i}{\lambda_i}\right)}{\sigma'_j \cdot \sqrt{T_j}} + 0.5 \cdot \sigma'_j^2 \cdot T_j \right)$	$-N \cdot \left(+ \frac{\ln\left(\frac{P_j}{K_j} + \frac{\lambda_i}{\lambda_i}\right) + 0.5 \cdot \sigma'_j^2 \cdot T_j}{\sigma'_j \cdot \sqrt{T_j}} \right)$			
Put options	$-N \cdot \left(-\frac{\ln\left(\frac{P_j}{K_j} + \frac{\lambda_i}{\lambda_i}\right)}{\sigma'_j \cdot \sqrt{T_j}} + 0.5 \cdot \sigma'_j^2 \cdot T_j \right)$	$+N \cdot \left(-\frac{\ln\left(\frac{P_j}{K_j} + \frac{\lambda_i}{\lambda_i}\right) + 0.5 \cdot \sigma'_j^2 \cdot T_j}{\sigma'_j \cdot \sqrt{T_j}}\right)$			

$$\lambda_i = \max(threshold - \min(P_j, K_j), 0)$$

 P_j = the spot or forward price of the underlying instrument of the option j; K_j = the strike price of the option j; threshold = 0.10%

Delta formula defined by supervisor options

Lambda Threshold for Supervisory Delta:

Lambda Grouping Methodology for Supervisory Delta:

Per Transaction

$$\lambda_i = \max(threshold - \min(P_j, K_j), 0)$$

 P_j = the spot or forward price of the underlying instrument of the option j; K_j = the strike price of the option j; threshold = 0.10%

Additional FX risk category



CRR2 Art. 277 (5) and EBA RTS

» For transactions with only 1 material risk driver, but where the currency of the underlying of the transaction is different from the settlement currency of the transaction

an additional FX risk category must be generated,

on top of the primary risk driver.

» This will lead to the transaction being defined in 2 separate hedging sets.

Settlement currency column has been created

Table Name	New columns	Description
SWAP OPTIONS FUTURE ASSET_SWAP COMMODITY_SWAP EQUITY_SWAP CREDIT_DERIVATIVE DEAL_IMPORT FRA CAPFLOOR	SETTLEMENT_CCY (if different from the currency of the trade)	Settlement currency of the trade if different from the currency of the trade
FDW_NETTING_AGREEMENT	CLOSE_OUT_VS_SETTLEMENT	Possible values (T/F,Null) If CLOSE_OUT_VS_SETTLEMENT is 'T' or Null Use close_out_ccy as a settlement currency, otherwise use the settlement currency of the deal

MOODY'S ANALYTICS CRR2 & EBA3.0

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Additional FX risk

Configuration



Edit	Edit Risk Driver Formula						
+ 4							
	Audit ID	Rule Order 🐧	Table Name	Contract Type	Trade Type	SA-CCR Risk Driver Formula	
	1	1	SWAP		IRS	Settlement ccy vs Trade ccy	
	2	2	SWAP		IRS Option	Settlement ccy vs Trade ccy	
	3	3	SWAP		IRS Basis	Settlement ccy vs Trade ccy	
	4	4	FRA			Settlement ccy vs Trade ccy	
	5	5	FUTURE		EQT	Settlement ccy vs Underlying ccy	
	6	6	FUTURE		EQT	Settlement ccy vs Trade ccy	
	7	7	FUTURE		EQT	Underlying ccy vs Trade ccy	
	12	10	FUTURE		COMM	Underlying ccy vs Trade ccy	
	13	11	FUTURE		BOND	Settlement ccy vs Underlying ccy	
	14	12	FUTURE		BOND	Settlement ccy vs Trade ccy	
	15	13	FUTURE		BOND	Underlying ccy vs Trade ccy	
	16	14	FUTURE		NOT	Settlement ccy vs Trade ccy	
	17	15	FUTURE		IR	Settlement ccy vs Trade ccy	
	18	16	FUTURE		IDX	Settlement ccy vs Underlying ccy	
	19	17	FUTURE		IDX	Settlement ccy vs Trade ccy	
	20	18	FUTURE		IDX	Underlying ccy vs Trade ccy	

Treatment of sold Options

Available in RiskAuthority™ v7.1.3

BCBS



only standalone and non-margined sold options get zero EAD

CRR2



- » standalone trades or netting sets containing only sold options get zero EAD, if
 - 1. netting set market value must be negative at all times
 - 2. premium is paid up front
 - 3. netting set is not margined

New supervisor option for CRR2

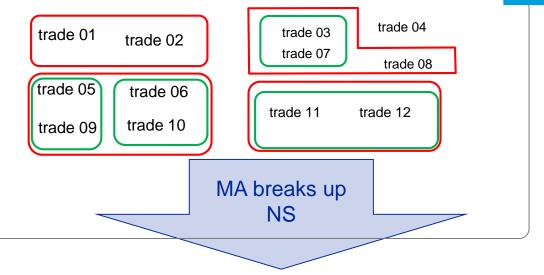
SA-CCR Credit Risk Sold Option:



1 Netting: multiple margin agreements

Available in RiskAuthority™ v7.1.3

Netting Set groups multiple Margin Agreements and standalone trades

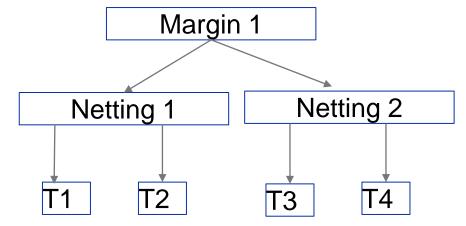


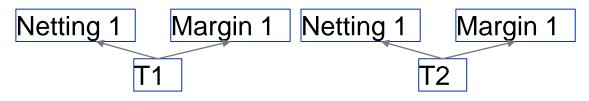


New DMM has been introduced in v7.1

» Existing datamodeling (using links from single margin to multiple nettings) can still be applied (top-down approach)

- » All the trade tables (SWAP, FOREX, OPTIONS, DEAL_IMPORT...) now have a new column MARGIN_AGREEMENT (on top of the existing NETTING_AGREEMENT_REF) so that the client can source directly to the trade the information of the netting agreement and/or the margin agreement it belongs to.
- » It is a bottom-up approach



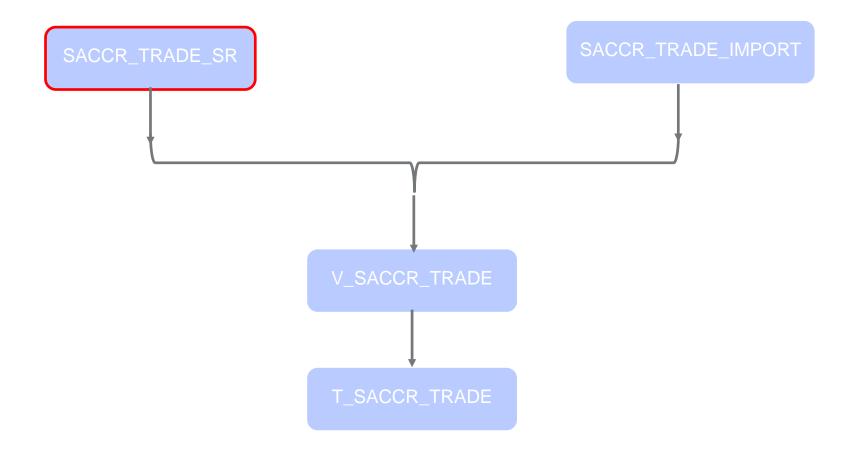


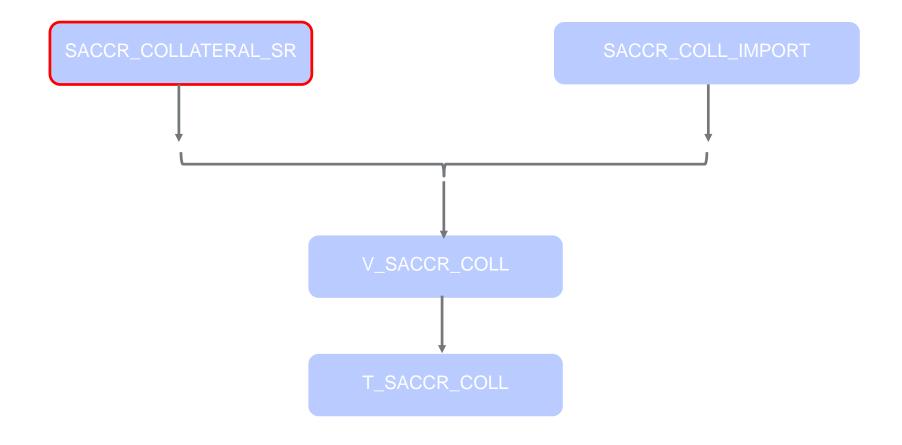
Available in RiskAuthority™ v7.1.3

- » 11 reports for counterparty credit risk
- The reports where SA-CCR/IMM will be reported are:
 - » C34.02: CCR EXPOSURE BY APPROACH
 - » C34.03: EXPOSURE VALUE FOR STANDARDISED APPROACHES: SA-CCR or SIMPLIFIED SA-CCR
 - » C 34.05 COUNTERPARTY CREDIT RISK: CCR EXPOSURES TREATED WITH THE INTERNAL MODEL METHOD (IMM)

		COUNTERPARTY CREDIT RISK	CCR
34.01	C 34.01	COUNTERPARTY CREDIT RISK: SIZE OF THE DERIVATIVE BUSINESS	CCR 1
34.02	C 34.02	COUNTERPARTY CREDIT RISK: CCR EXPOSURES BY APPROACH	CCR 2
34.03	C 34.03	COUNTERPARTY CREDIT RISK: EXPOSURE VALUE FOR STANDARDISED APPROACHES: SA-CCR or SIMPLIFIED SA-CCR	CCR 3
34.04	C 34.04	COUNTERPARTY CREDIT RISK: EXPOSURE VALUE FOR THE ORIGINAL EXPOSURE METHOD (OEM)	CCR 4
34.05	C 34.05	COUNTERPARTY CREDIT RISK: EXPOSURE VALUE FOR THE INTERNAL MODEL METHOD (IMM)	CCR 5
34.06	C 34.06	COUNTERPARTY CREDIT RISK: TOP TWENTY COUNTERPARTIES	CCR 6
34.07	C 34.07	COUNTERPARTY CREDIT RISK: IRB APPROACH - CCR EXPOSURES BY EXPOSURE CLASS AND PD SCALE	CCR 7
34.08	C 34.08	COUNTERPARTY CREDIT RISK: COMPOSITION OF COLLATERAL FOR CCR EXPOSURES	CCR 8
34.09	C 34.09	COUNTERPARTY CREDIT RISK: CREDIT DERIVATIVES EXPOSURES	CCR 9
34.10	C 34.10	COUNTERPARTY CREDIT RISK: EXPOSURES TO CCPs	CCR 10
34.11	C 34.11	COUNTERPARTY CREDIT RISK: RWEA FLOW STATEMENTS OF CCR EXPOSURES UNDER THE IMM	CCR 11

Available in RiskAuthority™ v7.1.3





Calculation of RC_PRE_CRM and PFE_PRE_CRM



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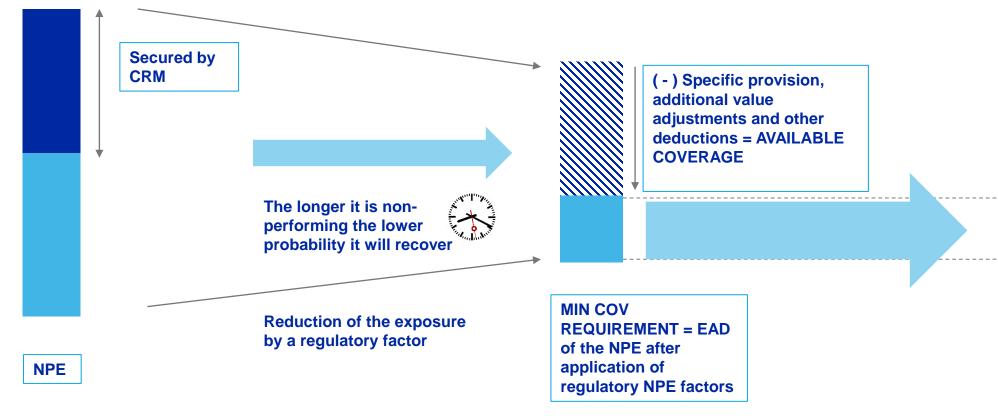
- » RC_PRE_CRM = MAX (sum(FV), 0) as if no collateral was applied
- » PFE_PRE_CRM: impact is only on the PFE_MULTIPLIER

$$multiplier = \min \left\{ 1; Floor + (1 - Floor) * exp \left(\frac{V - C}{2 * (1 - Floor) * AddOn^{aggregate}} \right) \right\}$$

CRR2 NPE Backstop

Minimum coverage requirement (NPE)

Available in RiskAuthority™ v7.1.3



Minimum coverage level (in %)								
After year	1	2	3	4	5	6	7	8
Unsecured	35	100						
Secured	5	10	17.5	27.5	40	55	75	100

Source: Magnus M., Deslandes J. and Dias C., Non-performing loans in the Banking Union – Stocktaking and challenges, Economic Governance Support Unit (EGOV), IPOL, European Parliament, October 2018, p. 9.

Insufficient coverage amount will be deducted from CET1

Portion of

covered

EAD that is

insufficiently

ICA reduces EAD in RWA calculation in STD

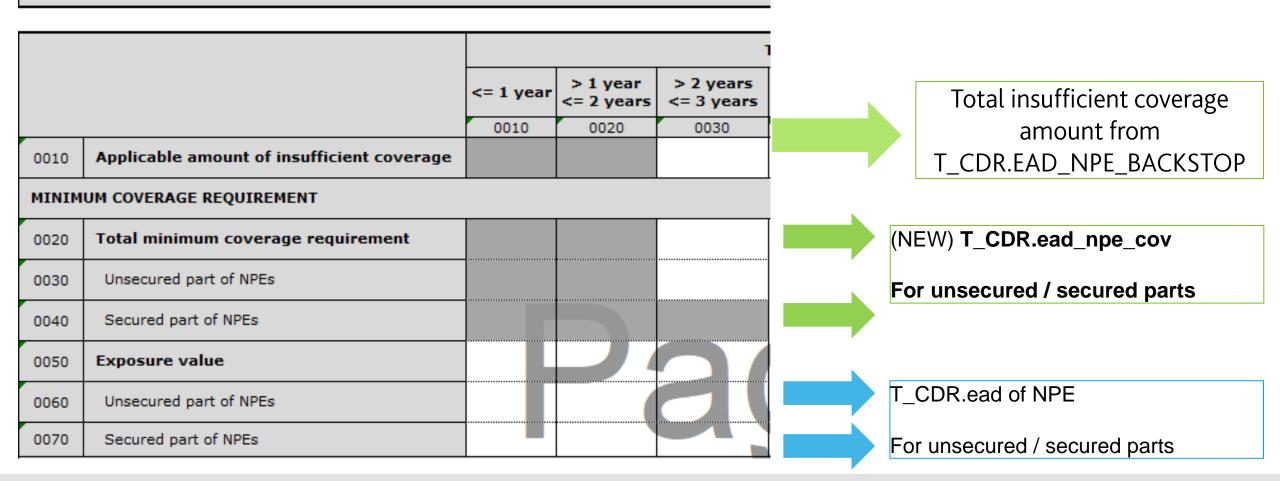
Past due STD Provision ratio should include ICA

C 35.01 – Min coverage requirement

Definition of NPE and time passed since definition as NPE, with T_CDR.NPE_BUCKET_ID

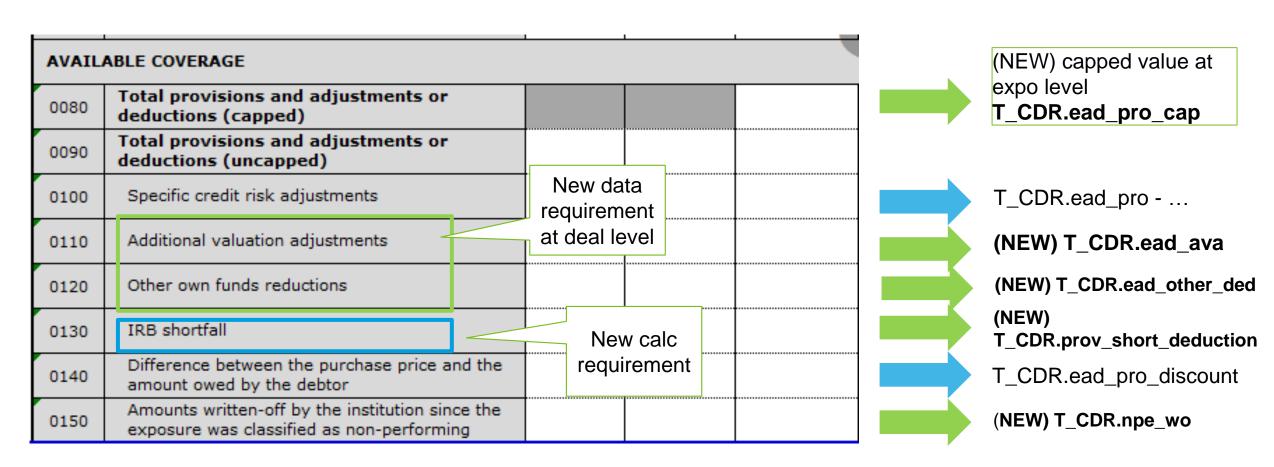


C 35.01 - NPE LOSS COVERAGE: THE CALCULATION OF DEDUCTIONS FOR NON-PER



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C 35.01 – total available coverage + capped available coverage



C 35.02 – Other report for forbearance

Forbearance granted between]1y,2y] or between]2y, 6y] after classification as NPE

Definition of NPE and time passed since definition as NPE: T_CDR.NPE_BUCKET_ID is not null

Part of NPEs secured by immovable property or residential loan guaranteed by an eligible protection provider	T_CDR.first_forbearance							
Part of NPEs secured by other funded or unfunded credit protection						lumn requ		
EXPOSURE VALUE					T_CDR.first_forbearance_b			ucket
Unsecured part of NPEs First forbearance measure applied between 1 year and 2 years after classification as non-performing (>1 year; <=2 years)								
Factor		0	0	1	1	1	1	
Part of NPEs secured by immovable property or residential loan guaranteed by an eligible protection provider Breakdown by point in time of granting the first forbearance measure								
> 2 and <= 3 years after classification as NPE								
Factor			0	0	0.35	0.55	0.7	
> 3 and <= 4 years after classification as NPE								
Factor				0.25	0.25	0.55	0.7	
> 4 and <= 5 years after classification as NPE								
							-	

CRR2 Treatment of CIU

New RWA methods for CIU

- » Look-through Approach
 - » Average RW computed from the detailed underlyings
- » Mandate-based Approach
 - » Average RW computed from the group of underlyings
- » Fallback Approach (1250%)

- » Minor enhancements are expected
 - Treatment of off-balance commitments on CIU
 - Imported RW for MBA

Available in RiskAuthority™ v7.1

Minor enhancements in RiskAuthority™ v7.1.4

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CRR2 Leverage Ratio

Reduced SA-CCR for leverage ratio

Derivatives, cash variation margin, netting agreements

NEW Reduced SA-CCR

"CCP leg" of client-cleared trade when the bank has no obligation to reimburse

excluded $PFE = multiplier \cdot AddOn^{aggregate}$

PFE multiplier is 1

 $RC = \max\{V - CVM_r + CVM_p, 0\}$

Available in RiskAuthority™ v7.1.3

"Client leg" of Client-cleared trades

NEW Full RWA SA-CCR

CEM

Available in RiskAuthority™ v7.1.1

CRR2 Exemptions

» Article 429a – New Exemptions to leverage amount

- (1)(c) Exposures that are assigned a risk weight of 0 % in accordance with Article 113(6) or (7): Banks inter Group and Institutional Protection Scheme
- (1) (d)When the bank is a public development bank: public lending, i.e. central governments, regional governments, local authorities or public sector entities in relation to public sector investments and promotional loans
- (1)(e) When the bank is not a public dev bank: exposures arising from passing-through promotional loans to other credit institutions
- (1)(f) Guaranteed parts of exposures arising from export credits, guarantor is ECA, SOV or PSE_SOV with 0% RW (CQ1 or denominated in local ccy)
- (1)(g) and (h) When the bank is a CM of a QCCP and is not obligated to reimburse for any loss (already in CRR)
- (1)(i) fiduciary assets recognized as assets in local GAAP but de-recognized by IFRS9 (already in CRR)
- (1)(j) Exposures to PSE treated as GOV (PSE_SOV), arising from deposits that the institution is legally obliged to transfer to the public sector entity for the purpose of funding general interest investments
 (already in CRR)
- (1)(k) the excess collateral deposited at triparty agents that has not been lent out
- (1)(m) the securitised exposures from traditional securitisations that meet the conditions for significant risk transfer
- (1)(n)Temporary exemption of Central bank reserves: cash, banknotes, claims to the central bank
- (1)(o) banking-type ancillary services of CSD (central securities depository) /institutions
- (1)(p) banking-type ancillary services of designated institutions

Expected enhancements for leverage



» Specific provision on off-balance from BIS_PROVISION_LINKS to populate T_LEVERAGE (instead of T_PROVISION)

» minor changes to SFT CCR add-on

Banking Cloud Credit Risk & Leverage Ratio roadmap for CRR2 EBA3.0

End Of October End Of January End Of March

²⁰²⁰ CRR2 configurations available for

- Credit Risk (SA&IRB)
- SA-CCR
- Leverage Ratio
- Large Exposures
- Non-Performing Exposures

Documentation on new data sourcing requirements for EBA 3.0 reports

2021

CRR2 & EBA 3.0 updates:

- updated result data model (T_ tables)
- CIU ("Mandate Based" approach)
- Leverage Ratio updates for SFTs and some derivatives
- CCP Default Funds
- First version of EBA 3.0 COREP OF report (Excel only)

EBA 3.0 reports update:

- COREP OF
- COREP LR
- COREP LE
- XBRL taxonomy

MOODY'S ANALYTICS

Better Faster Decisions

Moody's Analytics User Webinar Series CRR2 & EBA 3.0 NSFR

Yan Zhang, Director, Product Management

6 octobre 2020

Agenda

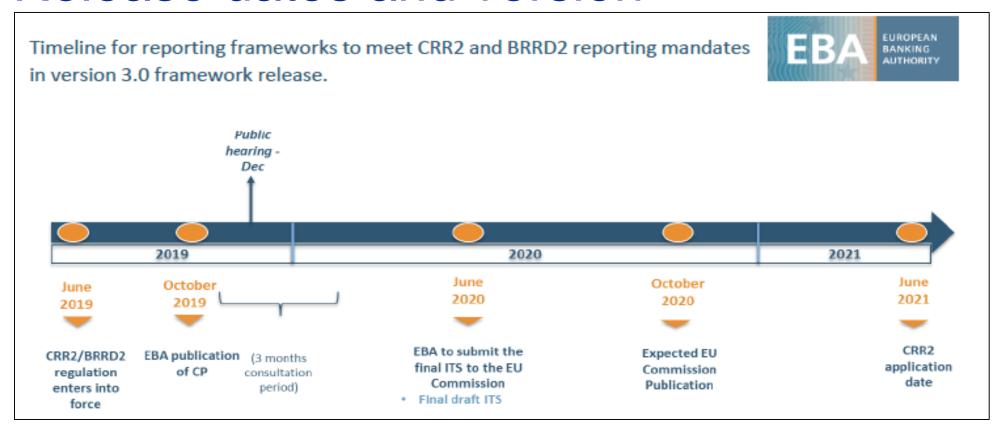
- High level overview of NSFR existing features
- 2 Key enhancements for CRR2 NSFR
- 3 Additional data requirements for NSFR



1

High level overview of NSFR existing features

Release dates and version



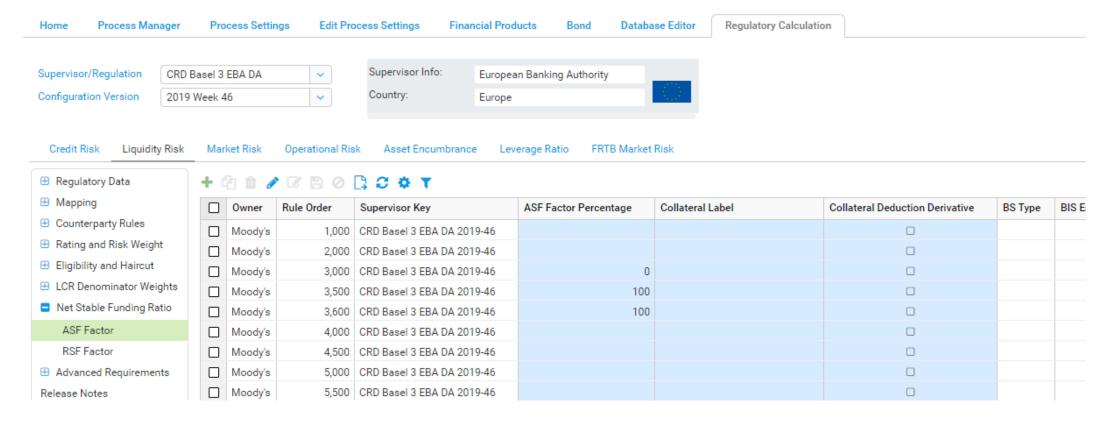
- RiskAuthority™ 7.1.4 release in December 2020
- RiskAuthority™ calculation engine configuration files in January 2021
- Liquidity Risk will be available on Banking Cloud SaaS platform in June 2021

Existing key NSFR-specific features

- ASF/RSF factors determination
- 2. NSFR Amortizing
- 3. Encumbrance
 - Asset encumbrance per ISIN
 - Secured facility pool allocation
 - Covered bond pool allocation
- Derivative & collateral
 - Derivative fair value netting
 - Deductible variation margin, excess ASF collateral allocation

NSFR ASF/RSF Factor determination

Configuration file to be delivered as per CRR2 NSFR

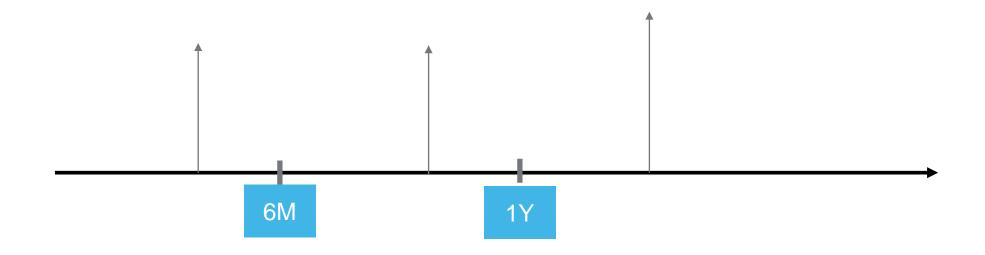


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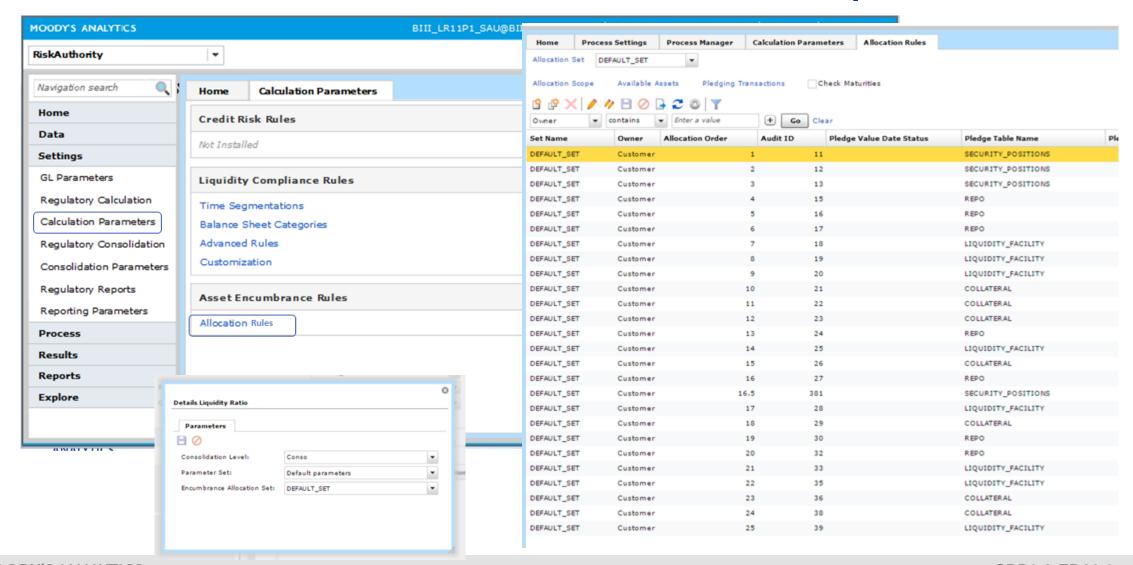
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NSFR Amortizing

Different portions of principal cash flows falling in different time buckets can have different ASF/RSF factors.



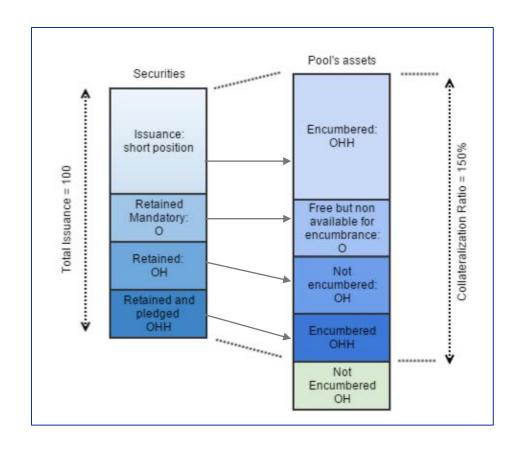
Asset Encumbrance treatment setup



Encumbrance of Pool Assets - Covered Bond

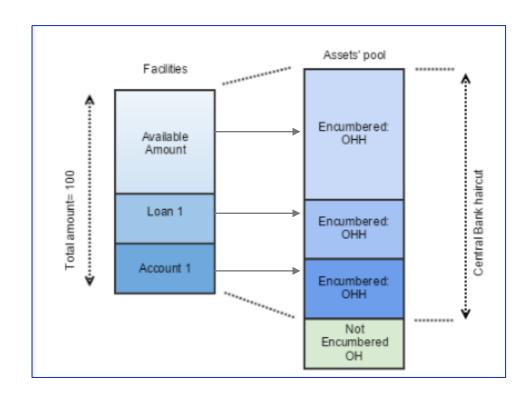
» Flexible encumbrance allocation process to link different portions of assets to different positions of covered bonds.

- » Unencumbered when:
 - Over-collateralized, or
 - Retained part of issued securities (not pledged)



Encumbrance of Pool Assets - Received Facilities

- The part of collaterals in excess of the facility limit
 - unencumbered
- The part of collaterals associated to the drawdowns
 - encumbered
- The part of collaterals in excess of the drawdowns but below the facility limit
 - encumbered or not according to the configuration.



NSFR: Derivatives & collaterals

- » Derivatives : Net fair value per currency and for all-currency.
- » Received (or pledged) variation margin can be deducted from derivatives having positive (or negative) netted fair value, for a given netting set
- » Report correct RSF factor for default fund and initial posted margin whose RSF factor = max(0.85, RSF factor of assets)
- Identify the assets pledged as collateral to avoid double counting

Key enhancements for CRR2 NSFR

Repo netting (1)

CRR Art. 428e, Annex 13 (instructions)

- » Net cash receivable/payable
 - The same counterparty
 - The right to set off is legally enforceable
 - Settle on a net basis or settle simultaneously or the same settlement mechanism
 - The same settlement date (considering encumbrance date)
 - The same type of collateral
 - Net results, if asset, take the highest RSF factor

Article 428e

Netting of secured lending transactions and capital market-driven transactions

Assets and liabilities resulting from securities financing transactions with a single counterparty shall be calculated on a net basis, provided that those assets and liabilities comply with the netting conditions set out in Article 429b(4).

Article 429b

Calculation of the exposure value of assets

- 1. Institutions shall calculate the exposure value of assets, excluding derivative contracts listed in Annex II, credit derivatives and the positions referred to in Article 429e in accordance with the following principles:
- (a) the exposure values of assets means an exposure value as referred to in the first sentence of Article 111(1);
- (b) securities financing transactions shall not be netted.
- 4. By way of derogation from point (b) of paragraph 1, institutions may calculate the exposure value of cash receivable and cash payable under securities financing transactions with the same counterparty on a net basis only where all the following conditions are met:
- (a) the transactions have the same explicit final settlement date;
- (b) the right to set off the amount owed to the counterparty with the amount owed by the counterparty is legally
 enforceable in the normal course of business and in the event of default, insolvency and bankruptcy;
- (c) the counterparties intend to settle on a net basis or to settle simultaneously, or the transactions are subject to a settlement mechanism that results in the functional equivalent of net settlement.
- 8. The amount of assets and liabilities resulting from securities financing transactions (SFTs) with a single counterparty and the same type of collateral underlying (level 1 or non-level 1 liquid assets) pursuant to the delegated act referred to in Article 460(1) of CRR shall be reported on a net basis where Article 428e of CRR applies.. In the case of SFTs with collateral baskets underlying, the less liquid collateral within those pool of collateral shall be understood to be first pledged.

Example 2 – netting securities financing transactions with a single counterparty

The reformulated approach will apply netting by collateral type. This approach allows netting only of those repos and reverse repos that are collateralised by the same type of collateral:

- repos with Level 1 collateral would be netted with reverse repos with Level 1 collateral; and separately
- repos with non-Level 1 collateral would be netted with reverse repos with non-Level 1 collateral.

Repo netting (2) Enhancements

- Configurable table to identify valid netting agreement and settlement system
- Configurable netting rules for repo netting
- Senerate the netted results, per ccy and for all-currency combined

(SFTs with the same inter-bank counterparty)	Residual maturity < 6 months					
. ,	Amount	Factor	RSF/ASF			
Non-Level 1 reverse repo <u>encumbered for 9 months</u>	100	50% RSF				
Non-Level 1 reverse repo	70	5% RSF				
Non-Level 1 repo	80	0% ASF				
RSF/ASF calculation on net positions:						
Non-Level 1 net repo	10	0% ASF	0 ASF			

The less than 6 months non-Level 1 reverse repo, encumbered for 9 months, is not included in the less than 6 months netting set since it has a residual maturity of encumbrance, and therefore settlement date, of more than 6 months. Therefore, the condition in Article 428e of the CRR requiring the same settlement date for netting SFTs is not met.

These reverse repos would generally trigger 50% RSF. However, if the bank holding these encumbered reverse repos also had repos with the same settlement date and collateral type, the assets from non-Level 1 reverse repo encumbered for 9 months would be netted with the liabilities from the repo in the between 6 and 12 months bucket.

Derivative netting (1)

Derivatives netting: net fair value in its settlement currency, for a netting set.

Seneral instruction - ITS ANNEX XXVII: For the purposes of reporting by currency subject to separate reporting as envisaged in Article 415(2) CRR, as regards derivatives as envisaged in Article 428d(4) CRR, institutions shall calculate the fair value for each netting set in its settlement currency. For all netting sets with matching settlement currencies a net amount shall be calculated in accordance with Articles 428k(4) and 428ah(2) CRR, and reported in the relevant currency subject to separate reporting. In this context, settlement currency shall be understood as the currency in which the settlement of a netting set has been agreed. Netting set refers to the group of receivables and payables stemming from derivatives transactions with a counterparty irrespective of whether they are denominated in a different currency to the settlement currency. In the case of multi-currency optionality, the credit institution shall make an assessment of the currency in which the settlement is likely to occur and shall report only in that separate currency.

Derivative netting (2)

Example and Enhancements

» Assume the settlement currency is USD in the example

Contract	currency	Fair value
Deal 1	USD	-100
Deal 2	USD	50
Deal 3	EUR	30
Netted results in BIS	USD	-50
Netted results in BIS	EUR	30
Netted results in CRR2	USD	-20

» Enhancements:

- Identify the settlement currency at netting agreement or margin agreement level
- A new supervisor option for netting per settlement currency
- Netting and reporting per settlement currency

FX Netting – without qualifying netting agreement

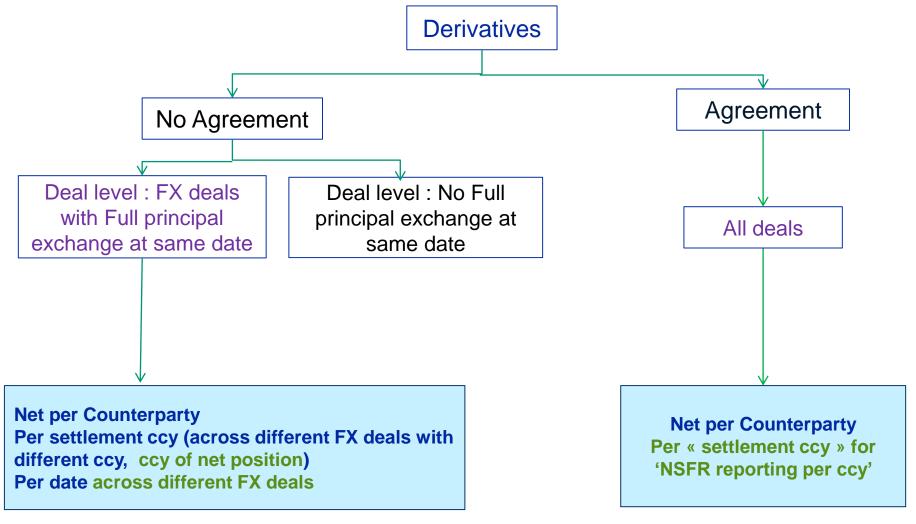
CRR Art. 428d(4)

4. Without prejudice to Article 428ah(2), all derivative contracts listed in points 2(a) to (e) of Annex II that involve a full exchange of principal amounts on the same date shall be calculated on a net basis across currencies, including for the purpose of reporting in a currency that is subject to separate reporting in accordance with Article 415(2), even where those transactions are not included in the same netting set that fulfils the requirements set out in Article 429c(1).

Conditions:

- » Full exchange of principal amounts on the same date
- » Netting per counterparty, per settlement currency and per date
- Settlement currency is the currency of the net position (the one with the maximum contribution)

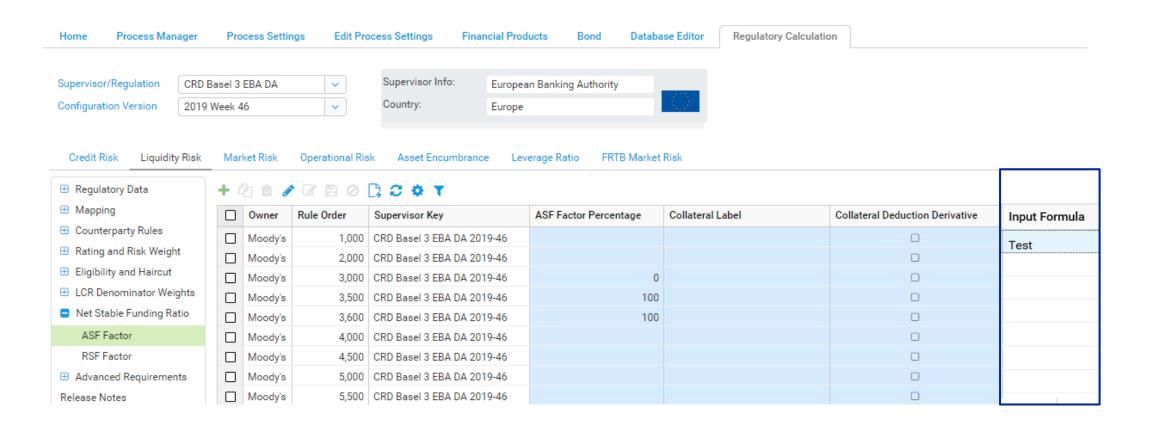
Derivatives netting: schema of enhancement



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NSFR ASF/RSF Factor – add python formula



MOODY'S ANALYTICS CRR2 & EBA3.0

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3

Additional data requirements for NSFR

Summary

- » Regulatory capital, Minor interest, deferred tax
- » Variation margin/initial margin/contribution to CCP default fund, linked with a derivative, netting agreement or margin agreement
- » Non-performing assets (LCR v.s. NSFR): performing status more granular
- » Repo: netting agreement or settlement system, beneficial ownership
- » Risk weight import by tranches of deals (<=35%), to allow different RSF factors
- » Settlement currency for netting agreement or margin agreement for derivative netting
- Attribute on deal level to specify if the derivative contract serve the monetary policy of the ECB or CB
- » Attribute for authorized interdependent asset and liabilities/trade date receivables/payables
- Early withdraw within 1 Y
- » Preferential treatment avec a group or IPS

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Better Faster Decisions

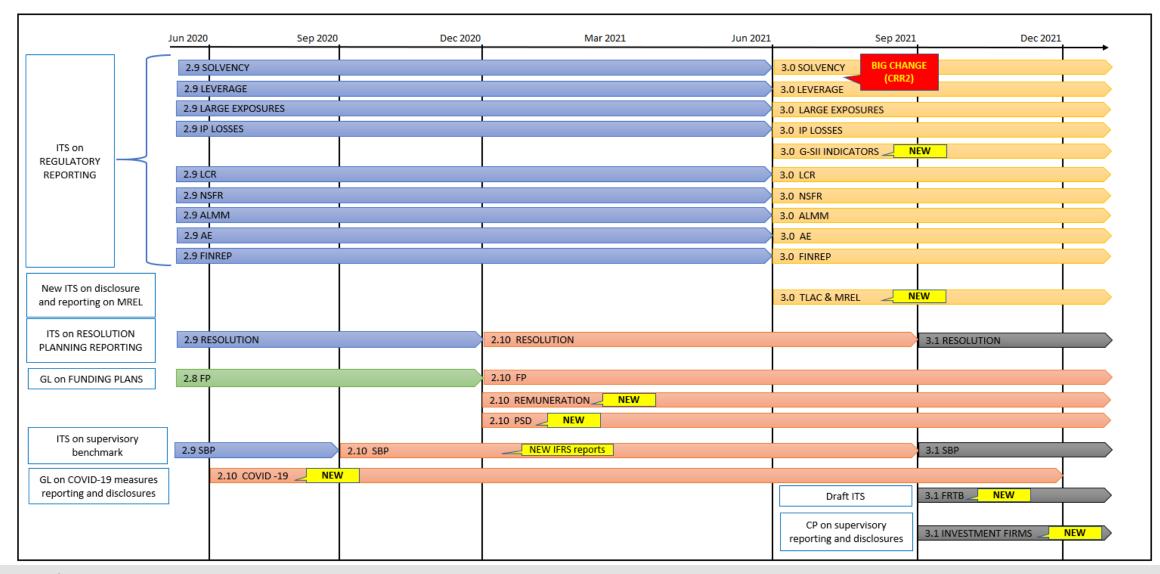
Moody's Analytics User Webinar Series CRR2 & EBA 3.0 EBA 3.0 regulatory reports

Agenda

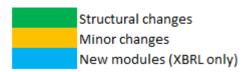
- EBA timeline and main changes on regulatory reports
- How EBA 3.0 is impacting our regulatory 2 reporting solution and data sourcing
- Reports configurations delivery plan and 3 minimum versions required



EBA timeline



EBA 3.0 / CRR2 / Backstop Reg

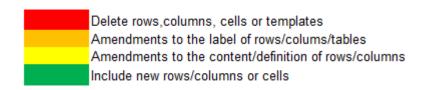


Applicable from 30 June 2021

- Final draft ITS on Supervisory Reporting (Consultation Paper published in October 2019) including changes to:
 - Own Funds (3 new templates C35 on NPE Loss Coverage, changes in CA reports CET1 deductions)
 - Credit Risk (new C08 templates based on IRB Pillar 3 disclosures, new scaling factors reflected in SA and IRB reports)
 - Counterparty Credit Risk (new C34 templates based on IRB Pillar 3 disclosures and new SA-CCR approach)
 - Leverage Ratio (exemptions, MtM replaced by SA-CCR, new C48 reports on SFT exposures for large institutions)
 - Large Exposures (new LE limit applicable between EU G-SIIs, C30.00 and C31.00 are removed)
 - Net Stable Funding Ratio (new set of simplified templates for smaller institutions)
 - Asset Encumbrance (minor changes for full alignment with Pillar 3 framework)
 - FINREP (minor changes to better reflect performing and non-performing assets)
 - G-SII indicators (new templates)
- ➤ New ITS on MREL/TLAC reporting and disclosures (CP published in November 2019)

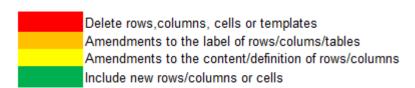


EBA 3.0 COREP OF - Capital & CR



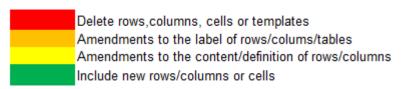
Template number	Template code	Name of the template / group of templates	Short name	РЗ	Data Model	RAY additional sourcing / prerequisit
		CAPITAL ADEQUACY	CA			
1	C 01.00	OWN FUNDS	CA1		T_OWN_FUND	goodwill changes (new capital item)
2	C 02.00	OWN FUNDS REQUIREMENTS	CA2			
3	C 03.00	CAPITAL RATIOS	CA3		T_OWN_FUND	Surplus(+)/Deficit(-) of CET1
4	C 04.00	MEMORANDUM ITEMS:	CA4		T_OWN_FUND	exceptions from deductions (new capital item)
		TRANSITIONAL PROVISIONS	CA5			
5,1	C 05.01	TRANSITIONAL PROVISIONS	CA5.1		T_OWN_FUND	adjustments (new capital item)
5,2	C 05.02	GRANDFATHERED INSTRUMENTS: INSTRUMENTS NOT CONSTITUING STATE AID	CA5.2			
		GROUP SOLVENCY	GS			
6,1	C 06.01	GROUP SOLVENCY: INFORMATION ON AFFILIATES - TOTAL	GS Total			
6,2	C 06.02	GROUP SOLVENCY: INFORMATION ON AFFILIATES	GS		T_RISK_CONSO	LEI / national code
		CREDIT RISK	CR			
7	C 07.00	CREDIT AND COUNTERPARTY CREDIT RISKS AND FREE DELIVERIES: STANDARDISED APPROACH TO CAPITAL REQUIREMENTS	CR SA		T_CDR	infrastructure projects (new sub type) CIU by approach (new fund_method)
		CREDIT AND COUNTERPARTY CREDIT RISKS AND FREE DELIVERIES: IRB APPROACH TO CAPITAL REQUIREMENTS	CR IRB			
8,1	C 08.01	CREDIT AND COUNTERPARTY CREDIT RISKS AND FREE DELIVERIES: IRB APPROACH TO CAPITAL REQUIREMENTS	CR IRB 1		T_CDR	infrastructure projects (new sub type)
8,2	C 08.02	CREDIT AND COUNTERPARTY CREDIT RISKS AND FREE DELIVERIES: IRB APPROACH TO CAPITAL REQUIREMENTS (Breakdown by obligor grades or pools)	CR IRB 2		T_CDR	infrastructure projects (new sub type)
8,3	C 08.03	CREDIT AND COUNTERPARTY CREDIT RISKS AND FREE DELIVERIES: IRB APPROACH TO CAPITAL REQUIREMENTS: BREAKDOWN BY PD RANGES	CR IRB 3	×	T_CDR	-
8,4	C 08.04	CREDIT AND COUNTERPARTY CREDIT RISKS AND FREE DELIVERIES: IRB APPROACH TO CAPITAL REQUIREMENTS: RWEA FLOW STATEMENTS	CR IRB 4	х	T_CDR_VARIANCE	import / variance analyzer
8,5	C 08.05	CREDIT AND COUNTERPARTY CREDIT RISKS AND FREE DELIVERIES: IRB APPROACH TO CAPITAL REQUIREMENTS: BACK- TESTING OF PD	CR IRB 5	х	T_BACKTESTING	import only
8,6	C 08.06	CREDIT AND COUNTERPARTY CREDIT RISKS AND FREE DELIVERIES: IRB APPROACH TO CAPITAL REQUIREMENTS: SPECIALIZED LENDING SLOTTING CRITERIA	CR IRB 6	х	T_CDR	-
8,7	C 08.07	CREDIT AND COUNTERPARTY CREDIT RISKS AND FREE DELIVERIES: IRB APPROACH TO CAPITAL REQUIREMENTS: SCOPE OF USE OF IRB AND SA APPROACHES	CR IRB 7		T_CDR	-
		GEOGRAPHICAL BREAKDOWN	CR GB			
9,1	C 09.01	Table 9.1 - Geographical breakdown of exposures by residence of the obligor (SA exposures)	CR GB 1		T_CDR	Additional value adjustments and other own funds reductions (7.1 SP3 new columns)
9,2	C 09.02	Table 9.2 - Geographical breakdown of exposures by residence of the obligor (IRB exposures)	CR GB 2		T_CDR	-

EBA 3.0 COREP OF - SEC, CCR, NPE



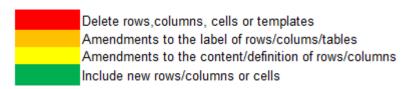
1						
Template number	Template code	Name of the template /group of templates	Short name	Р3	Data Model	RAY additional sourcing / prerequisit
14	C 14.00	DETAILED INFORMATION ON SECURITISATIONS	CR SEC Details		T_SECURITIZATION	securitization enhanced data model (7.1 SP3)
14,1	C 14.01	DETAILED INFORMATION ON SECURITISATIONS BY APPROACH	CR SEC Details 2	ž	T_SECURITIZATION	securitization enhanced data model (7.1 SP3)
		COUNTERPARTY CREDIT RISK	CCR			
34,01	C 34.01	COUNTERPARTY CREDIT RISK: SIZE OF THE DERIVATIVE BUSINESS	CCR 1		T_CDR	monthly market values over the quarter
34,02	C 34.02	COUNTERPARTY CREDIT RISK: CCR EXPOSURES BY APPROACH	CCR 2	х	T_CDR, T_SACCR_TRADE, T_SACCR_COLLATERAL	SACCR module, new SACCR data model (7.1 SP3)
34,03	C 34.03	COUNTERPARTY CREDIT RISK: EXPOSURE VALUE FOR STANDARDISED APPROACHES: SA-CCR or SIMPLIFIED SA-CCR	CCR 3		T_SACCR_TRADE, T_SACCR_COLLATERAL	SACCR module, new SACCR data model (7.1 SP3)
34,04	C 34.04	COUNTERPARTY CREDIT RISK: EXPOSURE VALUE FOR THE ORIGINAL EXPOSURE METHOD (OEM)	CCR 4		T_CDR	
34,05	C 34.05	COUNTERPARTY CREDIT RISK: EXPOSURE VALUE FOR THE INTERNAL MODEL METHOD (IMM)	CCR 5		T_EPE_DETAIL	new T table based on epe_detail_import (7.1 SP3)
34,06	C 34.06	COUNTERPARTY CREDIT RISK: TOP TWENTY COUNTERPARTIES	CCR 6		T_CDR	
34,07	C 34.07	COUNTERPARTY CREDIT RISK: IRB APPROACH - CCR EXPOSURES BY EXPOSURE CLASS AND PD SCALE	CCR 7	Х	T_CDR	
34,08	C 34.08	COUNTERPARTY CREDIT RISK: COMPOSITION OF COLLATERAL FOR CCR EXPOSURES	CCR 8	х	T_CRM, T_SACCR_COLLATERAL	SACCR module, new SACCR data model (7.1 SP3)
34,09	C 34.09	COUNTERPARTY CREDIT RISK: CREDIT DERIVATIVES EXPOSURES	CCR 9	Х	T_CDR	
34.10	C 34.10	COUNTERPARTY CREDIT RISK: EXPOSURES TO CCPs	CCR 10	Х	T_CDR	
34,11	C 34.11	COUNTERPARTY CREDIT RISK: RWEA FLOW STATEMENTS OF CCR EXPOSURES UNDER THE IMM	CCR 11	X	T_CDR_VARIANCE	import only (IMM)
		NPE LOSS COVERAGE	NPE LC			
35,1	C 35.01	NPE LOSS COVERAGE: SIZE OF THE DERIVATIVE BUSINESS	NPE LC1		T_CDR	Add value adjustments and other own funds reductions (7.1 SP3 new columns)
35,2	C 35.02	NPE LOSS COVERAGE: MINIMUM COVERAGE REQUIREMENTS AND EXPOSURE VALUES OF NON-PERFORMING EXPOSURES EXCLUDING FORBORNE EXPOSURES THAT FALL UNDER ARTICLE 47C (6) OF THE CRR	NPE LC2		T_CDR	
35,3	C 35.03	NPE LOSS COVERAGE: MINIMUM COVERAGE REQUIREMENTS AND EXPOSURE VALUES OF NON-PERFORMING FORBORNE EXPOSURES THAT FALL UNDER ARTICLE 47C (6) OF THE CRR	NPE LC3		T_CDR	first forbearance bucket (7.1 SP3 new columns)

EBA 3.0 COREP LR



Template number	Template code	Name of the template	Short name	Р3	Data Model	RAY additional sourcing / prerequisit
		00 Alternative treatment of the exposure measure			T_FIN_BAL_SHEET (bs value)	SFTs, public sector investments, promotional loans (new rep_sub_bs_item)
40	C 40.00		LR1		T_LEVERAGE (notional amount)	promotional loans (new bis_product_type)
			T_LEVERAGE (notional amount)	Credit Derivatives which are subjected to a close-out clause (7.1 SP3 new column)		
41	C 41.00	On- and Off-Balance Sheet items - Additional breakdown of exposures	LR2			
42	C 42.00	Alternative definition of capital	LR3			
42		Alternative breakdown of leverage ratio exposure measure components	LR4		T_LEVERAGE	Derivatives and SFTs subject to a cross-product netting agreement (7.1 SP3 netting_class='C')
43 C 43.00	Alternative breakdown or leverage ratio exposure measure components	ENT		T_CDR & T_LEVERAGE	EBA2.9 enhancements: T_CDR.leverage_ead joined from T_LEVERAGE, breakdowned by exposure class	
44	C 44.00	General information	LR5		additional info	-
47	C 47.00	Leverage ratio calculation	LRCalc		T_LEVERAGE	exemptions or exclusions, cash pooling arrangements (new reference, sub_reference)
	C 48.00	Leverage ratio volatility	LR6			
48,01	C 48.01	Leverage ratio volatility: Mean value for the reporting period	LR6.1		-	SFT exposures and adjustments
48,02	C 48.02	Leverage ratio volatility: Leverage ratio volatility: daily values for the reporting period	LR6.2		T_LEVERAGE (by generic_reporting_date)	daily values over the quarter (import only)

EBA 3.0 NSFR



Template number	Template code	Name of the template / group of templates	Р3	Data Model	RAY additional sourcing / prerequisit
		NSFR			
60	C 60.00	STABLE FUNDING - ITEMS REQUIRING STABLE FUNDING			
61	C 61.00	STABLE FUNDING - ITEMS PROVIDING STABLE FUNDING			
80	C 80.00	REQUIRED STABLE FUNDING		T NSFR	netted fair value of derivatives for each netting set in its settlement currency (7.1 SP4 new column)
81	C 81.00	AVAILABLE STABLE FUNDING		T_NSFR	netted amount of assets and liabilities from SFTs with a single cpty and same type of collateral underlying (7.1 SP4)
		SIMPLIFIED NSFR			
82	C 82.00	SIMPLIFIED REQUIRED STABLE FUNDING		-T_NSFR	netted fair value of derivatives for each netting set in its settlement currency (7.1 SP4 new column)
83	C 83.00	SIMPLIFIED AVAILABLE STABLE FUNDING		1_NSI K	netted amount of assets and liabilities from SFTs with a single cpty and same type of collateral underlying (7.1 SP4)
		SUMMARY NSFR			
84	C 84.00	SUMMARY NSFR		T_NSFR	formula based on previous reports

EBA 3.0 Delivery Plan and minimum versions

EBA version	Framework	Banking Cloud Delivery Date	RiskAuthority Delivery Date	RAY Minimum Version	
	SBP IMV (XBRL conversion & Validation Rules)	October 2020	August 2020		
	SBP MR (XBRL conversion & Validation Rules)	October 2020	September 2020		
	SBP CR (XLS, XBRL conversion & Validation Rules)	October 2020*	October 2020	5.1.2	
	FP (XBRL conversion & Validation Rules)	conversion & Validation Rules) October 2020		01112	
	RESOL (XBRL conversion & Validation Rules)	October 2020	Sontombor 2020	6.0	
EBA 2.10	REM (XBRL conversion & Validation Rules)	October 2020	September 2020	0.0	
	PSD FRP (XBRL conversion & Validation Rules)	October 2020	September 2020	7.1 SP2	
	COVID-19 templates (XBRL conversion & Validation Rules)	October 2020	August 2020	5.1.2	
	COREP OF/LR - new data model	end of October 2020	end of October 2020	7.4 CD2	
	COREP OF/LR - XLS & XBRL conversion & Validation Rules	end of Jan 2021 (XLS only) end of Feb 2021 (XBRL only)	end of January 2021	7.1 SP3	
	LE - XLS & XBRL conversion & Validation Rules	end of March 2021	>= January 2021	5.1.2	
EBA 3.0	AE/NSFR - new data model	December 2020	December 2020	7.4.004	
	AE/NSFR - XLS & XBRL conversion & Validation Rules	end of June 2021	>= February 2021	7.1 SP4	
	LCR DA - XLS & XBRL conversion & Validation Rules			5.1.2	
	ALMM - XLS & XBRL conversion & Validation Rules	end of June 2021	>= January 2021	5.1.2	
	GSII indicators - XBRL conversion & Validation Rules	end of June 2021	>= January 2021	6.0	
	TLAC & MREL - XBRL conversion & Validation Rules			0.0	
	FINREP - XLS & XBRL conversion & Validation Rules	end of April 2021	>= January 2021	5.1.2	
EBA 3.1	FRTB - XLS & XBRL conversion & Validation Rules	>= May 2021	>= April 2021	7.1 SP	
LD/(0.1	SBP, RESOLUTION, XBRL & Validation Rules	end of Sept 2021	end of Sept 2021	5.1.2	

Questions?







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