FÉDÉRATION BANCAIRE FRANÇAISE

2017.02.10

FRENCH BANKING FEDERATION RESPONSE TO EBA CONSULTATION PAPER ON PD ESTIMATION, LGD ESTIMATION AND THE TREATMENT OF DEFAULT EXPOSURES (EBA/CP/2016/21)

The French Banking Federation (FBF) represents the interests of the banking industry in France. Its membership is composed of all credit institutions authorized as banks and doing business in France, i.e. more than 390 commercial, cooperative and mutual banks. FBF member banks have more than 38,000 permanent branches in France. They employ 370,000 people in France and around the world, and service 48 million customers.

The FBF welcomes the opportunity to share its comment on the EBA's Consultation on PD estimation, LGD estimation and the treatment of default exposures. Please find our main comments below and our detailed feedback within our answers to the EBA's questions.

I. GENERAL COMMENT

The FBF is keen to thank the EBA for safeguarding and promoting the internal models. In this context, French banks are willing to help the European regulator better understand internal models and improve them if necessary.

As a professional association, the FBF will respond on the general points of this consultation while FBF members' individual responses may complement on the more technical questions.

Several questions or remarks can also be raised on the basis of this consultation:

- What will be the articulation of these guidelines with the TRIM project of the ECB?
- Prior to the entry into force of these guidelines, the EBA will have to ensure a good articulation between the various texts inherent in the definition of default, non-performing loans and, finally, IFRS9.
- Finally, this consultation does not deal with the subject of off-balance sheet exposures and credit conversion factor (CCF). The profession would like to know the ABE's intentions in this area.

II. ANSWER TO QUESTIONS RELATED TO THE CONSULTATION

4. General estimation requirements

4.1: Do you agree with the proposed requirement with regard to the application of appropriate adjustments and margin of conservatism? Do you have any operational concern with respect to the proposed categorization?

We agree with the EBA proposal on the proposed categories and priorities, and acknowledge these provisions are also consistent with the guidance produced by the supervisor regarding their audit trail.

Notably we favour EBA's distinction between adjustments (which may be positive or negative) and the margin of conservatism - MoC (which may be zero or positive).Therefore, isolating and quantifying the margin of conservatism must enable institutions that meet all the preconditions to lift this margin of conservatism.

As regards the question of the responsibility of the institution versus that of the supervisor, this assessment must therefore remain with the bank. The supervisor comes at the end of the process for verifying the proper application of these conditions and the relevancy of measures (as MoC for instance) taken by the institution.

However the consultation raises questions of interpretation relative to the definition of a "homogeneous segmentation". Given the many non-conclusive exchanges between institutions and the supervisor in this regard, it would be desirable for the EBA to at least define objective criteria on which all stakeholders could base themselves to assess the homogeneity of a segment or class of risk.

We note this precision should be provided by the regulator while preserving the human judgment as it is precisely provided for in paragraph 22 of these guidelines.

5. PD estimation

5.1: Do you see any operational limitations with respect to the monitoring requirement proposed in paragraph 53?

The requirement to calculate the one-year default rates at least quarterly will be difficult to implement as for LDPs considering the very low amount of defaults. This calculation is currently update annually.

Besides, we would like to stress 2 potential difficulties or interpretation issues:

- The first is related to article 37. The term “homogeneously” should be clarified in order to avoid misinterpretation.

- As regards Article 39, the “timely manner” should be interpreted in a manner consistent with the declaration of default of a counterparty.

5.2: Do you agree with the proposed policy for calculating observed average default rates? How do you treat short term contracts in this regard?

We agree with the proposed policy. No retreatment shall be performed over short term contracts.

5.3: Are the requirements on determining the relevant historical observation periods sufficiently clear? Which adjustments (downward or upward), and due to which reasons, are currently applied to the average of observed default rates in order to estimate the long-run average default rate? If possible, please order those adjustments by materiality in terms of RWA.

Yes, they are clear.

5.4: How do you take economic conditions into account in the design of your rating systems, in particular in terms of?

d. Definition of risk drivers,

e. Definition of the number of grades

f. Definition of the long-run average of default rates?

From our perspective the rating philosophy PIT/TTC should not be a validation criterion. On the wholesale perimeter, we generally use a so-called “hybrid” approach in the first instance, by applying a mix of PIT and TTC drivers.

The number of grades does not depend on the economic conditions as the models give directly a rating, or a continuous PD which is mapped on the group rating scale. The long-run average default rate is calculated on a historical period covering a mix of upturn and downturn years. The downturn periods are identified thanks to the annual observed default rates and macroeconomic indicators.

Question 5.5: Do you have processes in place to monitor the rating philosophy over time? If yes, please describe them.

This question relates to banks individual practices.

Question 5.6: Do you have different rating philosophy approaches to different types of exposures? If yes, please describe them.

This question relates to banks individual practices.

Question 5.7: Would you expect that benchmarks for number of pools and grades and maximum PD levels (e.g. for exposures that are not sensitive to the economic cycle) could reduce unjustified variability?

We do not believe that any benchmarks for number of pools and grades and maximum PD levels will reduce the unwarranted variability of RWAs. On the other hand, the harmonised definition of the default as well as the improvements made through these guidelines will reduce the variability of the RWAs but without always prejudging the justification or not of these differences.

6. LGD estimation

6.1: Do you agree with the proposed principles for the assessment of the representativeness of data?

The analyses of representativeness of the data realized on relevant axes are systematically implemented during the modelling phase. These analyses make only sense if they are realized on default contracts (modelled versus recently observed) and not between the default contracts used during the modelling phase versus the current portfolio (the performing portfolio).

6.2: Do you agree with the proposed treatment of additional drawings after default and interest and fees capitalized after the moment of default in the calculation of realised LGDs?

Restructuring fees and penalties in interests should not be added to the EAD but considered only as recoveries, otherwise a loan where such payments would be done would get the same LGD as a loan where no restructuring fees would be received, nor any penalties in interests applied. Restructuring fees payment and penalties in interests should reduce the LGD.

6.3: Do you agree with the proposed specification of discounting rate? Do you agree with the proposed level of the add-on over risk-free rate? Do you think that the value of the add-on could be differentiated by predefined categories? If so, which categories would you suggest?

Even if the proposal of using a single annual discounting rate is simple and precise, it will introduce an additional unnecessary complexity in the institutions and constitute a bone of contention amid the industry and even among entities belonging to a same banking group.
Even if we understand the aim of the EBA to reduce the unjustified variability of RWA across institutions, it is crucial to remind that part of this variability is justified and reflects a wide range of professional practices.

Assumptions used for parameters estimations should be consistent with economic and accounting reality in order to avoid unintended bias. As a matter of fact, it is commonly accepted that the industry uses the contractual rate as the discounting rate for LGD calculation. This is validated as a proxy for the Effective Interest Rate (EIR), required for provisions calculation by accounting standards (IAS 39 and IFRS 9).

For example, on a financing for a corporate, regarding the discount rate to be used for the calculation of historical LGD, if a rate much higher than the contractual loan rate is used, it creates losses even though the borrower would fully repay principal and interests. This bias would imply an overstated LGD. This bias would in turn have unintended negative consequences on the economy: the overstated LGD would imply increases in loan margins, and thus in the cost of financing for borrowers and finally on the prices for end users of products produced by such corporates.

Discount rate	Pros	Cons	Comments
XBor + 5%	▪ Simplicity	▪ Risk insensitive (same rate for all type of loan and all counterparties) ▪ At origination, a loan would not be valued at par ▪ Losses are overstated in many cases	Economic loss overstated
Effective interest rate	▪ Simplicity ▪ Consistent with accounting measures	▪ Unconsistent with economic loss whee upfront fees are accounted for under the accrued interest method	The EAD could be adjusted to reflect the real loss but it would be complex
XBOR + contractual Margin Or contractual fixed rate	▪ Simplicity ▪ A loan is valued at par if all expected cash flows are paid ▪ Same margin applied for all banks of the syndicate of a given loan		Variability is justified as it is linked to liquidity cost and / or underlying risk

Beyond the will to align as much as possible prudential and accounting frameworks, this method has an economic justification: the contractual rate invoiced to the counterparty has been calibrated by institution's experts to reflect the credit risk borne on the counterparty. All things being equal and assuming EU banks correctly manage their credit risk (it is the premise jeopardized by the proposed single discount rate), a "bad bank" (invoicing high contractual rates) would have the same recoveries as a "good bank" (invoicing low contractual rates) and would benefit from an unjustified lump LGD.

By imposing a discounting rate equal to a risk-free rate + an add-on, we will probably miss the point of RWA calculation echoing the risk appetite and the risk management of each institution. We recall by the way the discrepancy that will be introduced between accounting provisions and expected loss amounts while we understood that there is a strong will from international regulators to align as much as possible the two conceptual frameworks.

Therefore we consider that a contractual fixed rate is the best estimate of the discount rate (see appendix):

- It implies no bias: full repayment of principal and interests implies a 0% LGD (recovery costs put apart).

- It is an homogeneous rule among banks.

Eventually, should the contractual rate be not retained as a LGD discounting rate, we would support – as mentioned above – the view that a "one size fits all" approach would be counterintuitive and not risk-sensitive. Instead of a single spread component of 5%, we would favour an approach accordingly with type of activities/markets (e.g. specialized lending/ corporate banking/SME financing/retail markets/mortgage loans…). The range of proposed rates would be based on an EU-wide survey across institutions to be sure it will reflect economic conditions. We recommend the EBA to perform an impact study before making any decision on this topic.

6.4: Do you agree with the proposed approach with regard to the specification of historical observation period for LGD estimation?

The methodology is in line with our fashion to capitalize on the internal experience of recovery, the history of recovery of all the internal defaults is taken into account in the estimate of the long-term LGD.

6.5: Do you agree with the proposed treatment of incomplete recovery processes in obtaining the long-run average LGD?

No comments.

6.6: Do you agree with the proposed principles on the treatment of collaterals in the LGD estimation?

No comments.

6.7: Do you agree with the proposed treatment of repossessions of collaterals? Do you think that the value of recovery should be updated in the RDS after the final sale of the repossessed collateral?

We agree with the proposal, on the question of the update of values in the database, we think that it is necessary to store as a supplement to the final sale the estimated value at the time of the repossession or the estimated value regardless of the repossession so as to proceed to backtests of haircuts.

6.8: Do you think that additional guidance is necessary with regard to specification of the downturn adjustment? If yes, what would be your proposed approach?

The proposals are in line with methodologies and current practices. However, additional elements are necessary to clarify the notion of downturn.

7. Estimation of risk parameters for defaulted exposures

7.1: Do you agree with the proposed approach to the ELBE and LGD in-default specification? Do you have any operational concerns with respect to these requirements? Do you think there are any further specificities of ELBE and LGD in-default that are not covered in this chapter?

As there is a diversity of practices in this area, we consider two methodological approaches as regards estimate of the LGDD and ELBE:

- The first consists in directly estimating the LGDD with an LGDD model, and then deduce UL as the difference between the LGDD and the ELBE (usually close to specific provisions).

- The second means modelling the UL component (covering downturn, MoC, volatility) and then to deduce LGDD as the sum of UL and ELBE.

As a consequence we have on all the perimeter of defaults no modelling based on the estimate of the LGDD. Moreover the proposal to make converge the methodological approaches of the LGD for performing exposures and LGDD has to limit itself to the history of default and to the treatments of the incomplete processes of recovery so as to give banks more freedom as regards the parameters estimation.

7.2: Do you agree with the proposed reference date definition? Do you currently use the reference date approach in your ELBE and LGD in-default estimation?

On wholesale perimeter, we do not use any reference date. For open files, the ELBE corresponds to specific provisions, which are conservative on average. Thus Unexpected loss (amount of final loss above current outstanding net of specific provisions), may be negative. So provisions are used for LGD estimates for all open files without considering a reference date.

7.3: Do you agree with the proposed approach with regard to the treatment of incomplete recovery processes for the purpose of estimating LGD in-default and ELBE?

Yes, this methodology in coherence with that of the healthy outstanding seems to us relevant.

7.4: Which approach do you use to reflect current economic circumstances for ELBE estimation purposes?

This question relates to banks individual practices.

7.5: Do you currently use specific credit risk adjustments as ELBE estimate or as a possible reason for overriding the ELBE estimates? If so how?

Conditions allowing the assimilation of provisions as the ELBE seem too restrictive. In particular those specifying that the model of provision has to satisfy CRR requirements.

8. Application of risk parameters

8.1: Do you see operational issues with respect to the proposed requirements for additional conservatism in the application of risk parameter estimates?

No comments.

9. Re-development, re-estimation and re-calibration of internal models

9.1: Do you agree with the proposed principles for the annual review of risk parameters?

No comments.

10. Calculation of IRB shortfall or excess

10.1: Do you agree with the clarifications proposed in the guidelines with regard to the calculation of IRB shortfall or excess?

We consider that this issue should not be treated in this consultation but in a specific document with respect to IFRS9 prudential treatment.

11.1: How material would be in your view the impact of the proposed guidelines on your rating systems? How many of your models do you expect to require material changes that will have to be approved by the competent authority?

The question should be assessed in the light of the quantitative impact study that the EBA is currently conducting.

APPENDIX: DISCOUNT RATES

The proposal for a single discount rate seems to have the advantage of being simple and precise. Yet the **proposed XBOR+ fixed add on would generate bias in estimation of economic loss.**

Although the LGD should be an estimation of economic loss, it should not incorporate bias.

Notably, supposing **a discount at XBOR + 5%,** for a loan which generates XBOR + loan margin, if this loan margin is lower than 5% (which is most of the cases of corporates and Specialised Lending senior loans), this would imply **a positive LGD, ie an apparent loss, even if the borrower fully repays the principal and interests.**
In the examples hereunder, we compare the LGD calculation with different discount rates assumptions.

Hereunder is an example of loan characteristics.

Base case	**31/12/2013**	**31/12/2014**	**31/12/2015**	**31/12/2016**
loan granted cash flow	-100			
principal outstanding		100	100	100
loan rate	2,50%			
upfront fee paid	1			
EIR	2.85%			
principal repaid				100
interests paid		2,5	2,5	2,5

We consider two scenarios: one with 1 year recovery period, the other one with 2 years recovery period.

Default scenario				
	31/12/2013	**31/12/2014**	**31/12/2015**	**31/12/2016**
scenario 1 year recovery period			default	emergence
scenario 2 years recovery period		default		emergence

The different discount rate are as follows:

Assumptions for discount rate			
Discount rate	**XBOR+ margin**	**EIR**	**XBOR + 5%**
XBOR	0,60%	0,60%	0,60%
Add on (loan margin or fixed add on)	1,90%	1,90%	5,0%
Upfront fees paid at origination		1%	
Discount rate	2,50%	2.85%	5,60%

The LGD are calculated hereunder according to the different discount rate, and to the 1 or 2 years recovery period scenarios, and considering that the borrower either fully repays principal and interests, or fully repays principal but does not pay any interests.

COMPARISON OF LGD CALCULATION USING DIFFERENT DISCOUNT RATES			
Discount rate	XBOR + margin	EIR	XBOR+ 5%
Add on	1,9%		5,0%
Discount rate	2,50%	2.85%	5,60%
LGD with **1 year recovery period**, **full principal and interest repayment**	**0,0%**	0,33%	**2.86%**
LGD with **2 years recovery period full principal and interest repayment**	**0%**	0.65%	**5.58%**
LGD with **1 year recovery period,** full principal repayment but **no interest repayment**	**4.82%**	5.14%	**7.61%**
LGD with **2 years recovery period** full principal repayment but **no interest payment**	**7.14%**	7.77%	**12.51%**

Supposing the borrower fully repays interests and principal, and with a 1 year recovery period, the LGD using XBOR +5% would be very overstated. Using EIR would also imply some overstatement, as this rate incorporates upfront fees paid at origination and is thus higher than XBOR + loan margin.

Discounting interests paid at a rate higher than the contractual loan rate, ie XBOR + loan margin, unduly overstates the LGD.

With a longer recovery period, the overstatement would be higher.
Supposing a recovery period of 2 years, and supposing the borrower fully repays principal and interests, the LGD calculated with XBOR + loan margin would be of 0% which is consistent with no loss observed (loan fully repaid and interests fully repaid), whereas the LGD calculated with a discount rate of XBOR + 5% would imply an LGD of 5.6 % which is strongly overstated. (recovery costs put apart).

Using XBOR + a fixed margin of 5% would strongly overstate the LGD calculated on historical default. It would **bias the back testing** of models and would then imply an increase of the modelled LGD. This **in turn would imply increases in loan margins, and thus an increase of the cost of financing for borrowers and finally an increase of the prices for end users of products produced by such corporates.**

Using a discount rate different from XBOR + loan margin and higher than this one would overstate the calculation of observed LGD and would have unintended negative impact on the real economy.

This bias has no economic sense and thus no justification. The LGD calculated would not be consistent with accounting losses observed and reality.

We thus propose to use XBOR + loan margin as discount rate in order to have LGD showing levels consistent with observed losses (notably 0 LGD when the loan is fully repaid in principal and interests).

Using the EIR, as it includes upfront fees paid at loan origination, would also have some bias. This bias could be corrected by a modification of the EAD, but this would be complex. This modification would result in an LGD equal to the LGD obtained using a discount rate of XBOR + loan margin. It would therefore be much simpler to use directly this rate, and still be consistent with accounting results.

Additional justification for using XBOR + loan margin:

The annual margins are sized by the banks of a syndicate in order to cover:

- The liquidity costs ;
- The loan management costs (teams and IT costs notably) ;
- The expected losses of the loan ;
- The taxes ;
- The net profit for the bank in order to remunerate the capital.

Using a discount rate equal to XBOR + loan margin is consistent with accounting losses as it includes liquidity costs, loans management costs.

Portfolio margins:
The reasoning when envisaging a discount rate should not be to consider only one loan, but a **portfolio** of hundreds of loan, diversified, as banks have such portfolios.

On a given portfolio, the margins generated over the year by all loans of the portfolio cover the Expected Losses of the portfolio. These margins thus enable to fund provisions equal to these EL.

These EL cover the actual observed losses when they occur over the year. This is the case as long as the portfolio is diversified and granular and as long as models of assessment of PD, LGD , CCF, are accurate.

Discounting at XBOR + loan margin has an economic meaning as the margin of the defaulted loan if not paid would not enable to have the balance between the total expected losses and observed losses.

The net profit generated by the healthy loans also provide an additional cushion.
As the margin generated by the non-defaulted loans of the portfolio enable to cover the observed losses, there is no need to discount recoveries of the defaulted loan with a higher rate than the contractual rate of XBOR + loan margin.

Different discount rate and RWA variability:

Unjustified RWA variability should be distinguished from justified RWA variability:
Applying the same discount rate to all banks for all loans is a too simplistic assumption, which creates bias as explained above, with unintended negative consequences on the real economy.

Also banks account their interests using the loan margin. Should we use XBOR + fixed add on to estimate the losses, then there would be two different assumptions when the bank calculates a profit or a loss, with no justification of the economic meaning nor of the level of the fixed add on. At the balance sheet of a bank, two different assumptions would be used: one for calculation of incomes in the P&L, and another one for calculation of regulatory capital. This would imply a higher complexity in the understanding of banks financial statements.

Applying the loan contractual rate ie XBOR + loan margin (or contractual fixed rate) as discount rate for all banks and loans, is an homogeneous assumption, consistent with accounting rules and enabling to take into account the different costs borne by the bank (refinancing and liquidity costs, loan management costs, etc.). Note that for a syndicated loan, the loan margin is the same for all banks (it is the contractual loan margin, as indicated in the documentation of the loan).

When a loan has a different margin than another loan, this is due to a different risk.
Therefore if two banks use different levels of discounting rate, this would be due to different risks in their portfolio and would be thus justified.

Undue variability of RWA would be for example for one bank to use XBOR + liquidity cost, and for other banks XBOR +loan margin or XBOR + fixed add on or fixed discount rate. Using for all banks XBOR + contractual loan margins (or fixed contractual rates if they are fixed and not variable) would be an homogeneous rule among the different banks. Variations in RWA due to these different rates would be justified one, by the different risks in portfolio.

If a bank invoices higher margins due to higher liquidity costs, this would also be a justified variability of RWA as this increased refinancing cost for this bank is a real cost that the bank actually bears and which should be adequately covered by its margins. There is no undue variance here.

As shown above, the fixe+ 500bp add-on is too high and would generate bias and unintended negative consequences on the real economy.

With 2 years recovery period and assuming that the borrower fully repays principal but pays no interests at all:

- The LGD calculated with XBOR +5% would be 1.75 times higher than the LGD calculated using XBOR + loan margin.

- The LGD calculated with EIR would 1.09 times higher than the LGD calculated using XBOR + loan margin.

Using XBOR + a fixed add on of 5% would thus strongly overstate LGDs given the bias introduced by the use of a discount rate different from and much higher than the contractual loan rate.

Using the EIR, as the EIR is higher than the contractual loan rate given the incorporation of the upfront fees paid at origination in the EIR, would also imply some bias. +9% is not negligible and should be avoided. Using the contractual loan rate, ie either XBOR + the contractual loan margin or the fixed contractual rate, would have no bias and would be in line with accounting losses.

Comparison of accounting loss and economic loss resulting from LGD with discount rate of XBOR + loan margin

- **LOAN MARGIN BREAKDOWN**

The loan margin is composed of the liquidity costs (which depend on the amortization profile and maturity of the loan), the internal loan management costs, the expected losses on the loan (which depends on the risk of the loan, PD and LGD), the taxes and the dividends to be distributed in order to remunerate the capital put in front of the loan.

LOAN MARGIN	1,90%
LOAN MARGIN BREAKDOWN	
LIQUIDITY COST	0,50%
INTERNAL LOAN MANAGEMENT COST	0,25%
EL	0,20%
TAXES	0,38%
DIVIDENDS	0,57%
TOTAL	1,90%

- **ACCOUNTING LOSSES :**

DEFAULTED LOAN		
	2015	**2016**
INCOME		
INTERESTS ACCRUED	2,50	2,50
PROVISION WITHDRAWN ON INTERESTS PAID		5,00
RESTRUCTURING FEES PAID	–	1,00
TOTAL PROFITS	2,50	8,50
EXPENSES		
PROVISION ON INTERESTS	– 2,50	– 2,50
LOSS ON INTERESTS		– 5,00
BOR	– 0,60	– 0,60
LIQU COST	– 0,50	– 0,50
INTERNAL LOAN MANAGEMENT COST	– 0,25	– 0,25
EXTERNAL RECOVERY COST		– 1,00
TAXES	–	–
TOTAL CHARGES BEFORE TAXES	– 3,85	– 9,85
TOTAL CHARGES AFTER TAXES	– 3,85	– 9,85
P&L BEFORE TAXES	– 1,35	– 1,35
P&L AFTER TAXES	– 1,35	– 1,35

In the calculation of LGD above, the external recovery cost are compensated by restructuring fees (which is not always the case: costs can be higher or lower).
No internal recovery costs are included in this example. They are already taken into account in the loan margin.
Exposure at default is 102.5
Amount due at emergence is 102.5 +2.5 = 105, the LGD at emergence is (105-100)/105, ie 4.8%

The loss at emergence date is equal to 5 (amount due at emergence of 105 (principal plus interests) minus 100 of principal repaid. This loss at emergence can also be calculated using the LGD: 102.5 * 4.82% *(1+2.5%)).

The accounting loss of 1.35 over one year is equal to 0.60 of refinancing at XBOR, +0.50 of liquidity costs, + 0.25 of internal loan management costs. NB: this assumption of the accounting loss is indicative only as the treasury manages its refinancing globally, taking into account the bank portfolio as a whole.

The difference between the loss calculated between the LGD and the accounting loss is 5-(2*1.35) = 2.3. The difference between the two losses corresponds to the elements of the loan margin which don't correspond to actual expenses (no impact on the P&L), the EL, taxes and dividends. Over one year it would be 1.15%.

Loan margin breakdown

XBOR		0.60%	Taken in accounting expenses
LOAN MARGIN	1,90%		
▪ LIQUIDITY COST		0,50%	Taken in accounting expenses
▪ INTERNAL LOAN MANAGEMENT COST		0,25%	Taken in accounting expenses
A : SUM OF XBOR , LIQUIDITY COSTS AND INTERNAL MANAGEMENT COSTS		*1.35%*	Expenses => impact on P&L, ie real loss
▪ EL		0,20%	Not taken in accounting in expenses
▪ TAXES		0.38%	Not taken in accounting expenses (no taxes on the defaulted loan if P&L result is negative)
▪ DIVIDENDS		0,57%	Not taken in profits or in expenses .It is the result of income - expenses
B : SUM OF MARGIN ELEMENTS NOT TAKEN IN ACCOUNTING LOSS (EL + TAXES + DIVIDENDS)		*1. 15%*	
TOTAL A + B		*2,50%*	It correspond to the loan contractual rate, risk free + loan margin, 0.60%+1.90%

When interests are unpaid, the LGD calculated is higher than the pure accounting loss as it includes also the part of the loan margin not received (a “loss of earnings”, ie not a real accounting loss) and which was supposed to cover the EL, the taxes and dividends.

Nevertheless including the EL is justified on an economic point of view, as in order for the portfolio to generate a sum of EL which will be provisioned and which will cover the observed losses, the part of loan EL would have been needed. Therefore adding it to the loan in default is justified. Including the rest of the margin, notably dividend is conservative.

Conclusion: **discounting with XBOR + contractual loan margin implies no bias. Discounting with XBOR + loan margin is in line with reality. When the borrower fully repays principal and interests, the LGD is 0%.** (lgd of 0 when there is no loss).

When there is a loss, it is higher than the accounting losses but this is justified economically.
NB: As the formula of LGD generally add specific loan management costs for loan in defaults, the amount added for that at the numerator should be only the difference between the loan management costs for a loan in default, and the average loan management costs (for loan in default and not in default) which are already included in the loan margin and thus taken into account when the discount rate is XBOR + loan margin.

- **Discount rate choice**

There can be some misunderstanding in discussions related to discount rate, if the use of the LGD calculation is not specified. The LGD calculated can be a historical one for pure back testing or a modelled LGD ie a predictive LGD.

The discount rate itself can be a mean to take into account MoC and Downturn aspect for predictive LGD. But there are also other means to do so (like boot strapping calculations of averages, or haircuts on collateral values or volatilities applied on them, etc.). Double counting of MoC and Downturn should be avoided. Also the type of model, statistical or theoretical has to be taken into account.

The choice of the discount rate should depend on:

- The use of LGD calculated: historical or predictive (modelled LGD).
- The way MoC and Downturn are taken into account
- The type of model (statistical or theoretical).

The table hereunder summarizes the possible discount rate according to the use of the LGD calculated.

	Requirement	Possible Discount rate
LGD used for back testing only	To be close to reality. No MoC or downturn to be added All recovery cash flows are known Historical risk free is known The margin of the loan is known	▪ Risk free + contractual loan margin ▪ A proxy : risk free + average loan margin of the portfolio Risk free is the historical one, observed between default date and emergence date.

LGD used for modeling predictive LGD	MoC and downturn to be taken into account in the predictive LGD	MoC and downturn can be incorporated by different means in the LGD model: o Average calculated with boot strapping if statistical model o Or higher discount rate than contractual loan rate o Or haircuts and volatilities applied to collateral asset values or borrowers cash flows if theoretical model The discount rate used can be : ▪ Risk free + contractual loan margin ▪ Risk free + average loan margin of the portfolio ▪ Risk free + add on Risk free is a predictive one

Conclusion:

The common rule for banks could be to say that the discount rate is the loan contractual rate, (ie risk free + loan margin, or loan fixed rate if any), MoC and Downturn aspects put apart.
Use of the LGD could be specified:

- When a bank calculates an LGD for pure backtesting, the discount rate does not need to incorporate MoC and Downturn, and the loan contractual rate at risk free + loan margin is consistent with reality.

- When a bank calculates a modelled LGD, ie a predictive LGD, it can :
  - Either include MoC and Downturn in the discount rate, or
  - Include such elements through other means and use the loan contractual rate.