Practical Workshop for NBU Staff and Bankers

Impairment
IFRS 9 Practical issues and calculations

CFRR》
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WORLD BANK GROUP
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STAREP
Strengthening Auditing and Reporting in
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May 2016

Introduction

» IFRS 9 single model requires lots of reliable information, for example:

» Information for estimating debtor's credit risk and identifying its significant increase.

» Information for estimating occurrence of default events within 12 months from the reporting date.

» Information for estimating occurrence of default events within the life of the instrument, their probable outcomes and weights;

Implications: Even slight change in 1 parameter can affect the resulting amount of recognized impairment loss and thus financial results of an entity. Therefore, it's everything else but NOT easy to adopt these newest requirements.

Data issues

» Identifying sources of historical and current data, and building PD and LGD models when data is scarce.

» Incorporating macroeconomic forecasts to estimate forward-looking expected credit losses.

» Designing an impairment calculation workflow, integrating existing bank systems to improve timeliness of impairment calculations and on-going monitoring.

» Interpreting the changes required to existing PD and LGD models, and ensuring consistency with stress testing, ICAAP, and pricing models.

» Defining staging or transfer criteria to determine when loan provisioning should move from one-year to lifetime.

Data issues

» Reconciling existing Basel, financial, and accounting reporting.

» Integrating granular and aggregated calculation results for consumption by external accounting systems.

» Providing a financial dashboard to review attribution analysis between different reporting periods.

» Modeling and estimating complex parameters such as early term-out, prepayment, call options, and future expectations for floating or forward rates used in the expected credit loss calculation.

» Calculating the credit-adjusted effective interest rate (EIR), required for discounting future expected losses.

Example

» Bank A has a total amount of loans of $605,000 issued to its clients. All the loans are valued at amortised costs in the balance sheet of the bank.

» Client XXX of bank A has officially filed for bankruptcy because their main product is an outdated smartphone.

» The last column of the table contains percentages of 12 months expected credit loss (ECL) in the individual age groups of the loans. The ECL is provided by a credible rating agency that calculates Expected Losses for different categories of loans and exposures. The ECL percentage is based on future expected losses only. There are no "triggering event" yet on these loans.

» The age structure of the loans are provided in the table in the next slide.

» What is the loan loss provision according to IAS 39 and IFRS 9 model of impairments?

Example

Past due days	Amount in $	% of expected credit loss	
Within maturity	500 000	0.40	
1-30 days	50 000	0.75	
31-90 days	25 000	5.00	
91-180 days	15 000	8.00	
181-365 days	7 000	25.00	
365+ days	5 000	60.00	
Client XXX	3 000	100.00	
Sum	605,000		

IAS 39 Impairment calculation

» Based on the previous table and assumptions, IAS 39 impairment is ….....?

» What if we change the scenario: Within the outstanding$500,000 of loans which are within maturity, there is a big manufacturing client of the bank with outstanding loan of $200,000 (maturity of 4 years remaining) and its one and only big warehouse of stock has burnt down and it can be reliably estimated that for the next 5 years the sales, revenue, profit of the company will be affected by 50%.

» How would you calculate loan loss provision under IAS 39?

IFRS 9 Impairment calculation

» IFRS 9 impairment calculations are:

» Loan loss provision = (500,000x0.4)+(50,000x0.75)+…..+3000=

» We are also assuming that there are significant increase in credit risk that would imply a change from stage 1 to stage 2.

Impact of ECL on banks

» The principal impact on banks is the need to recognize ECL at all times for all financial instruments, and at individual- and grouped-asset levels. Banks will have to update the ECL amounts at each reporting date to reflect changes in the credit risk of financial instruments. This will significantly increase the number and frequency of impairment calculations that must be performed and the amount of information that must be collected to do so.

» The amount of information surfacing will increase in a number of aspects of delivering the new impairment approach; for instance, higher granularity, forecast of future losses, new models and simulation requirements.

» The model to calculate ECL introduces the need to consider every financial instrument at an individual-asset level, which means a large amount of data needs to be collected and processed. While the need to collect data at the individual-asset level exists today in banks (e.g., capital calculations), the level of data granularity required for the IFRS 9 impairment process represents a new challenge for finance departments. It is also worth noting that the assessment of the impairment process will fall under the scope of statutory auditors, which is not the case with capital calculations.

Example

» Bank B has a reporting date of 31 December. On 1 July 20Y1 Bank B advanced a 3-year interest-bearing loan of CU3,500,000 to Company C. Management estimates the following risks of defaults and losses that would result from default at 1 July Y1 and at 31 December Y1 and Y2.

Example

Period end	A Risk of default in next 12 months %	B Risk of default in months 13-36 %	C Loss that would result from default $	(A+B)*C Lifetime expected credit losses $
As at 1 July Y1	4	6	2,000,000	200,000
As at 31 Dec Y1	5	10	1,000,000	150,000
As at 31 Dec Y2	1	2	500,000	15,000

Example

» What credit loss provision should Bank B book at:

(i)   1 July Y1

(ii)   31 December Y1

(iii) 31 December Y2

Example

» **At 1 July Y1:**
On initial recognition Bank B should recognise a credit loss provision equivalent to 12-month expected losses. Stage 1

  » 12-month expected loss = (4% * $2,000,000] = **$80,000**

» **At 31 December Y1:**

» Bank B evaluates whether *credit risk has increased significantly* since the loan was initially recognised (on 1 July Y1).

» *Credit risk relative to initial recognition?* The total risk of default has increased from 10% to 15% which is significant.

» *Is absolute level of credit risk 'low'?* Although 'low' is not quantified, a 15.0% risk of default certainly appears to not be low. IFRS 9 B.5.5.23 refers to an example of low credit risk being an external rating of 'investment grade'. The lowest rating generally considered investment grade is 'BBB' meaning adequate capacity to meet financial commitments.

Example

» The credit loss provision should therefore be based on lifetime expected losses. Lifetime expected loss = (5.0%+10%) * $1,000,000 = **$150,000.**

Example

» **At 31 December Y2:**

» Bank B again evaluates whether *credit risk has increased significantly* since 1 July Y1. The evaluations are as follows

» *Credit risk relative to initial recognition?* The total risk of default has now decreased to 3.0% and is therefore lower than the risk at initial recognition of 10%

» The credit loss provision should therefore return to being based on 12-month expected losses.

» 12-month expected loss = (1.0% * $500,000) = **$5,000**

Stage 3 impairment

» An entity might wish to use a local regulator's definition of 'non-performing loans' for determining when it needs to transfer assets into and out of Stage 3 of IFRS 9's impairment model. Under the local regulator's rules, a loan cannot be transferred back to the portfolio of performing loans until at least 12 months have elapsed from the point it was categorised as non- performing. Can the regulator's de nition of non-performing loans be used as the basis for making transfers into and out of Stage 3 of IFRS 9's impairment model?

» The regulator's definition of non-performing loans may not be appropriate for IFRS 9 purposes. IFRS 9 would require the asset to be transferred out of stage 3 if the credit risk on the financial instrument improves so that the financial asset is no longer credit-impaired. There is nothing in IFRS 9 to prohibit the transfer out of stage 3 occurring sooner than 12 months after the transfer into stage 3. The regulatory definition of non-performing loans may be a useful starting point in arriving at a definition of default, but will probably need to be amended to comply with IFRS 9.

Measurement period

» **Example – measurement period**

» Entity E makes a 12-month loan to Entity F. The contract states that the loan can be extended for a further 6 months at the sole option of Entity E (the lender). Entity E's management considers that it is probable that the loan will be extended. It is assumed that the loan meets IFRS 9's 'solely payments of principal and interest' condition to be measured at amortised cost.

» In this example, the expected losses would be measured based on the 12-month contractual term. The measurement would not take into account possible future losses arising from management's decision to extend the loan for the additional 6 month period, unless or until the extension option is actually exercised. This is because the extension is at the sole option of the lender, so 12 months is the maximum *contractual* period over which the lender is exposed to credit risk.

» If Entity F (the borrower) has the right to extend the loan however, the maximum contractual credit risk period would be 18 months.

Measurement period

» **Practical insight – credit card and similar facilities**

» Some financial instruments include both a loan and an undrawn commitment component, with the effect that the entity's contractual ability to demand repayment and cancel the undrawn commitment does not limit the entity's exposure to credit losses to the contractual notice period. Examples are revolving credit facilities, such as credit cards and overdraft facilities, which can be contractually withdrawn by the lender with as little as one day's notice.

» In practice lenders continue to extend credit for a longer period in such situations. The consequence of this is that the lender may frequently withdraw the facility only after the credit risk of the borrower increases, which could be too late to prevent some or all of the expected credit losses. IFRS 9 contains speci c guidance for such arrangements stating that the entity shall measure expected credit losses over the period that the entity is exposed to credit risk and expected credit losses would not be mitigated by credit risk management actions, even though the period may extend beyond the maximum contractual period.

» The Standard notes that when determining the period over which the entity is exposed to credit risk, the entity should consider factors such as relevant historical information and experience on similar financial instruments. This guidance, which is narrowly scoped, should not be applied by analogy to other instruments.

Forecasting losses

Forecast of future losses

» The new regulation implies banks will have to forecast future losses. In doing so, banks will have to pick each contract and project its behavior into the future, projecting the future cash flows for every asset they hold. This step will generate a significant amount of data. Even though this data might not need to be retained for a long period of time, the sheer fact that it needs to be generated creates an impact on the time to deliver and the storage space required.

New models

» In order to forecast losses, new models will have to be built to model the behavior of a bank's assets according to certain economic scenarios. These new models will need to be built based on historical data to capture historical behavior. What this implies is that historical data capturing loss behavior will have to be available, adding an extra dimension to the already large amount of data needed to calculate ECL.

Controlled process

» With IFRS 9 will come greater bank scrutiny by both statutory auditors and regulators. So it will no longer be acceptable to have data values altered, either automatically or manually, without following a controlled process with a proper, documented explanation.

» Once ECL calculations are performed, banks can use analytical engines to assess the financial impact. Due to the strong connection between calculations of the financial KPIs and risk KRIs, this will require full recalculations in most cases.

»

Controlled process

Risk Department	Risk Committee/Internal Audit	Risk Department/Loan Department/Finance Department	Governance	External auditors and Regulators
Segmentation of portfolio	Verification/Approval	ECL methodology and calculations	Analysis of results	
Model development/Variables/parameters	Review and monitoring of model	Accounting	KPIs and KRIs Benchmarks	Supervision & Auditing
Testing of model		Internal and external Reporting	Sign off	

Segmenting portfolios

» Due to the large scope of IFRS 9 and the number of methodological choices involved, banks will need to apply different ECL measurement approaches to different segments of their portfolios. For this reason, the first choice that banks have to make is how to segment their portfolios for the purposes of ECL measurement.

Segmenting portfolios

» Once an optimal methodology is defined, banks need to aggregate relevant data from data sources across the organization and bring it into an automated, centralized test environment. But given that data integration, provisioning, quality and aggregation continue to pose numerous challenges for most institutions, this may not be an easy task. In addition, tracing and documenting data transformations needed for proper governance and auditability is often time consuming, inefficient and incomplete.

IFRS and Basel/CRD IV

IAS 39
- "too little too late"
- Based on "incurred" loss model

IFRS 9
- "Expected" loss model
- More aligned with supervisory concerns and Basel III
- Still differences with Basel III, pillar II, stress tests and different scenarios

Implications
- Roles of supervisors more important than ever
- Need better understanding of the differences between the different approaches
- Need to understand where IFRS impairment stops and where prudential losses in Basel III starts

CRR and Basel III (PDs) vs IFRS 9 (PDs)

» Twelve-month expected credit losses used for regulatory purposes are normally based on 'through the cycle' ('TTC') probabilities of a default (that is, probability of default in cycle-neutral economic conditions) and can include an adjustment for prudence.

» PD used for IFRS 9 should be 'point in time' ('PiT') probabilities (that is, probability of default in current economic conditions) and do not contain adjustment for "prudence". However, regulatory PDs might be a good starting point, provided they can be reconciled to IFRS 9 PDs.

» As a consequence, during a benign credit environment, IFRS 9 PD (PiT) will be lower than regulatory PD (TTC), while the adjustment will be the opposite during a financial crisis:

» **The standards does not provide any guidance on how to adjust TTC PD to PiT PD. The process is complex and will require the use of judgment**.

Standardised approach

» Banks are allowed to include general loan loss provisions in Tier 2 capital subject to the limit of 1.25 % of risk-weighted assets.

» '*Collective impairment provisions*' under IFRS 9 will only be eligible for inclusion in Tier 2 capital, if:

  » they are freely and fully available, as regards to timing and amount, to meet credit risk losses that have not yet materialised, and

  » they reflect credit risk losses for a group of exposures for which the institution has currently no evidence that a loss event has occurred.

» Under SA, there are no prudential loan loss provision unless the jurisdiction has implemented loan loss provision in addition to the SA capital requirements. If this is the case and the accounting loss is less than the prudential loan loss provision, the difference is deducted from Tier 1 capital.

Basel II/III and CRD IV v/s IFRS 9

Credit Risk Management in Basel/CRR	Calculation	Treatment	Linkages with IFRS 9
Standardised	Formulaic	No expected losses in Basel III/CRR as capital requirement is formulaic and based on RW	Regulatory data cannot be used for IFRS 9
IRB (Foundation)	Banks' own estimates of 12 months PD, other variables prescribed by regulators	Banks' provisions are compared with EL and adjustments made to regulatory capital	Data of PD can be used as basis for IFRS with adjustments (see next slide)
IRB (Advanced)	Banks' own estimates of variables	Banks' provisions are compared with EL and adjustments made to regulatory capital	Data of PD can be used as basis for IFRS with adjustments (see next slide)

Basel II/III and CRR v/s IFRS 9

» Adjustments to PD

Parameters	Basel /CRD IV	IFRS 9
Time	5 to 7 years	No observation of period defined
Economic cycle (see slide 29)	TTC	PiT
Definition of default	> 90 days	No definition but there is a rebuttal presumption of not more than 90 days
Calculation	PDxLGDxEAD	PDxPV of cashflows impaired (one method to calculate)
Floors	PD/LGD and Pillar 2 calculations	No thresholds or floors
Intention of estimates of PD	Average of estimate within next 12 months	12 month or lifetime estimate

Conclusion

» Applying IFRS 9 will put more reliance on good quality and detailed data sources.

» Without data and judgement, IFRS 9 application could be affected.

» There are adjustments between IFRS 9 and Basel III expected losses.

» There are many practical issues to consider and the impact on own funds.