The SEACEN Centre

Provisioning practices and Rules Under IFRS 9

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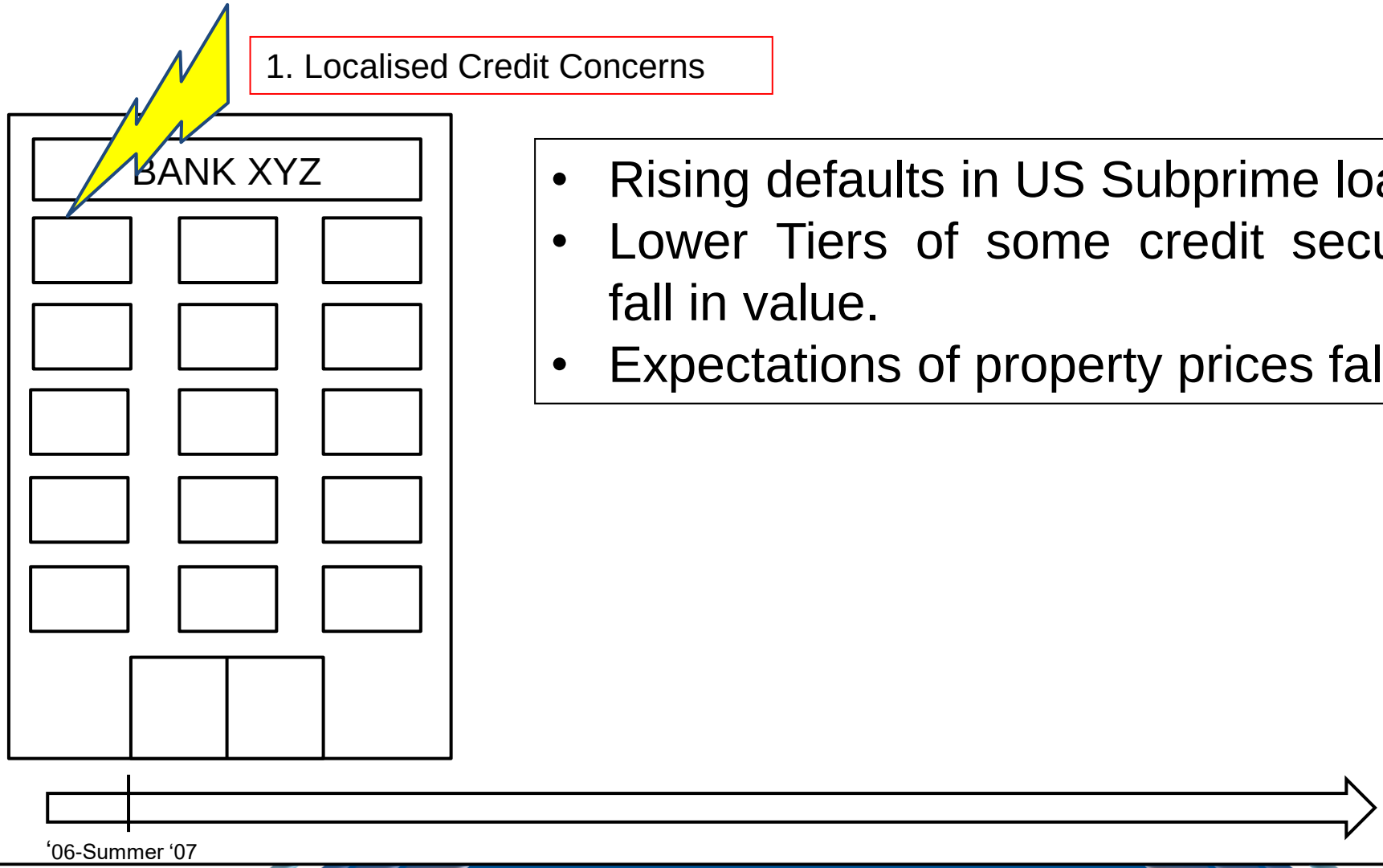
The SEACEN Centre

Contents

1. Recap of the Global Financial Crisis
2. The Birth of IFRS 9
3. The Three Stages of Impairments
4. Basel Committee Guidance on IFRS 9
5. Additional Challenges
6. Key Questions to Discuss with Banks and their Auditors
7. IFRS 9 Experiences

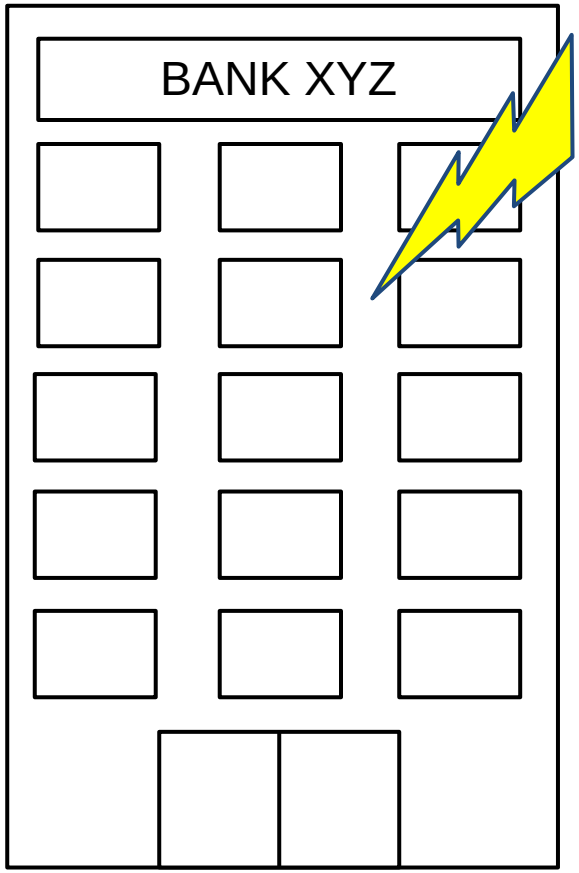
Recap of the Global Financial Crisis

Recap of Events: GFC



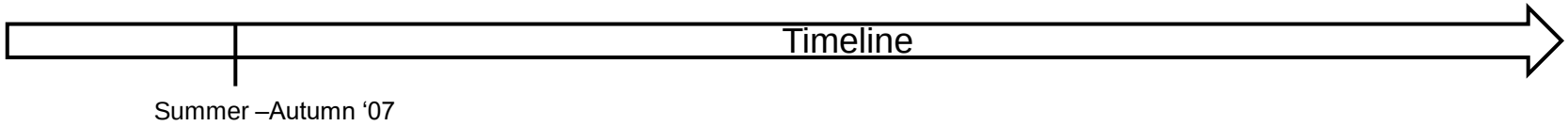
- Rising defaults in US Subprime loans.
- Lower Tiers of some credit securities fall in value.
- Expectations of property prices fall.

Recap of Events: GFC



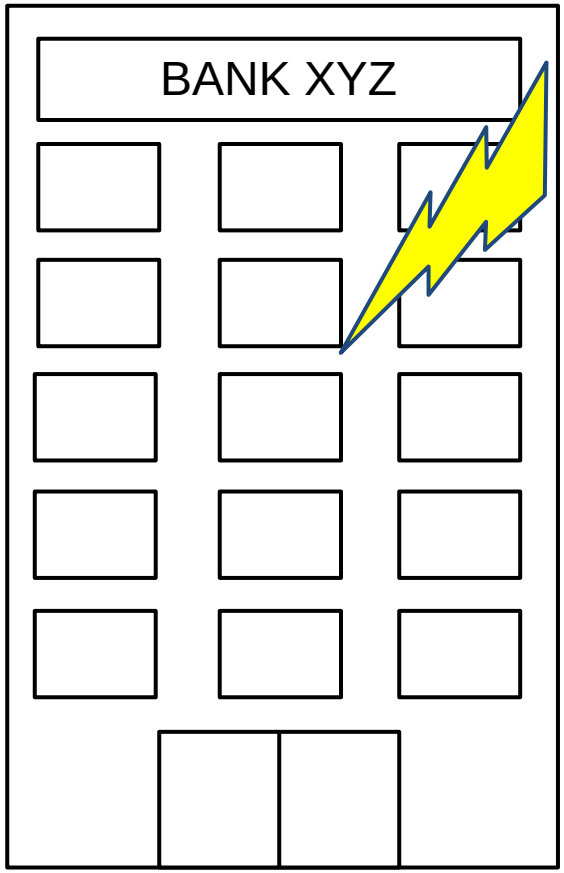
2. Initial crack in confidence and collapse in liquidity

- Failure of 2 large hedge funds. Initial crisis of confidence over solvency position of firms.
- Spreads in inter-bank funding and other credit products rise sharply.
- Funding for securitisations and inter-bank funding for second tier banks dries up.
- Northern Rock faces retail run.



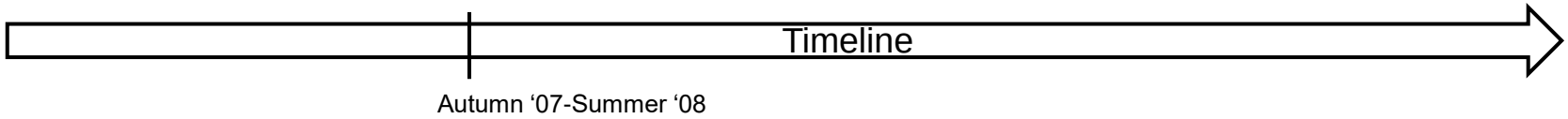
Northern Rock

Recap of Events: GFC

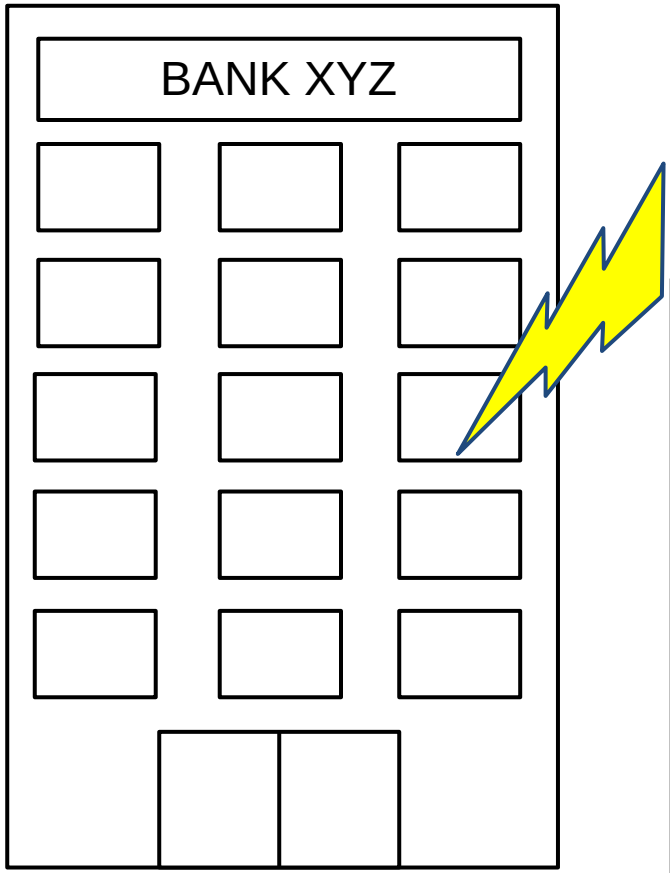


3. Accumulation of losses and continuation of liquidity strains

- Severe mark-to-market losses in trading books.
- Funding strains in the secured financing market.
- Worries about liquidity of major institutions.
- Government assisted rescue of Bear Stearns.

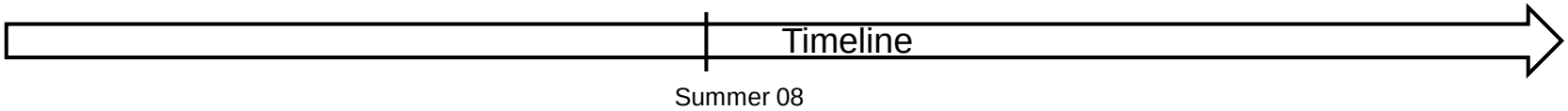


Recap of Events: GFC

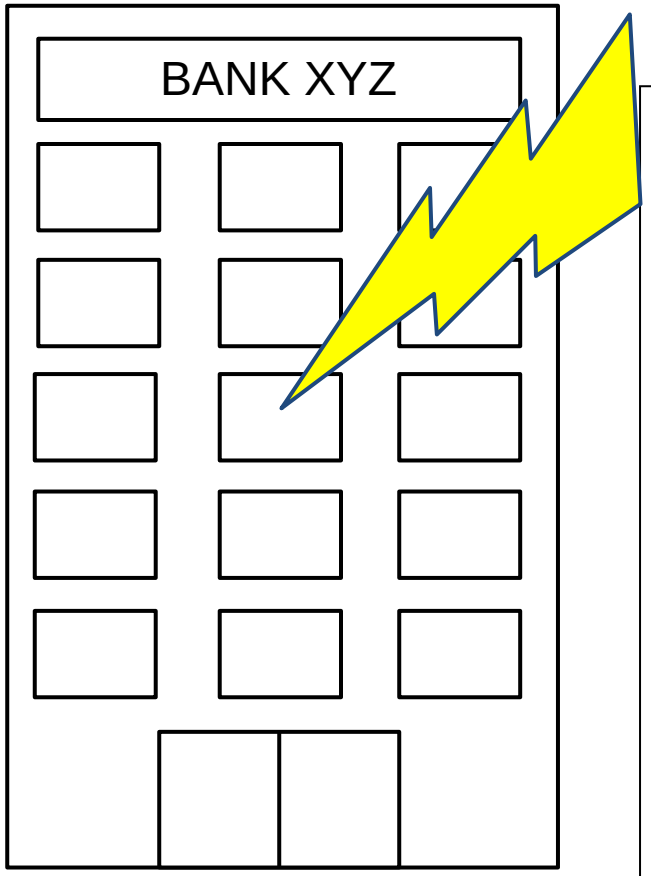


4. Intensification of losses and liquidity strains

- Mark-to-market losses and liquidity strains continue to escalate.
- Housing market problems recognised as widespread in UK, US and other countries, as house prices fall and supply of credit dries up.
- Funding problems of UK mortgage banks intensify.



Recap of Events: GFC



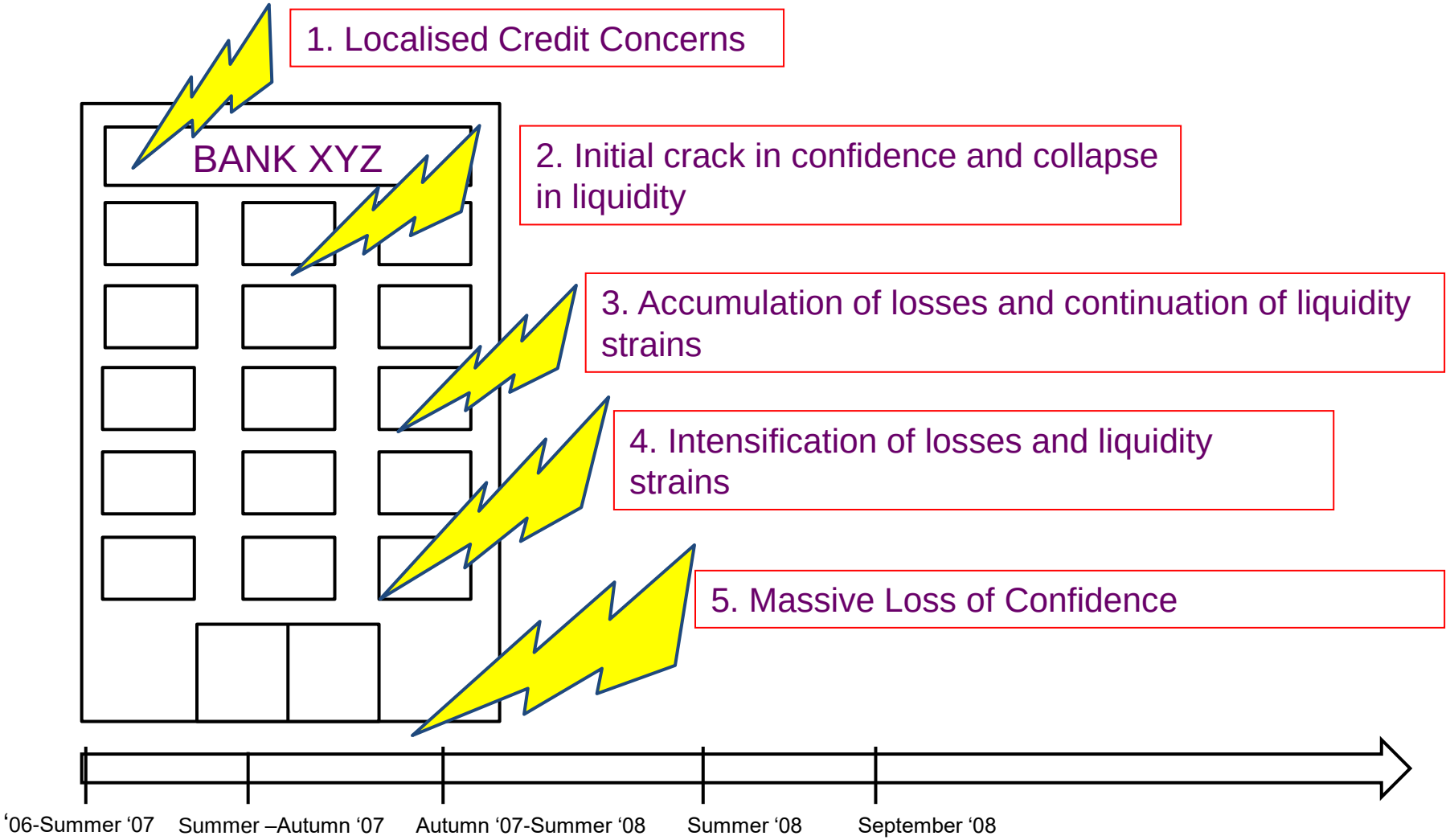
5. Massive Loss of Confidence

- Bankruptcy of Lehmans breaks confidence that major institutions are too big to fail.
- Credit downgrade of AIG triggers rising collateral calls, requiring government rescue.
- Mix of credit problems, wholesale deposit runs and retail deposit runs lead to collapse of Washington Mutual, Bradford & Bingley, and Icelandic banks.
- Almost total seizure of interbank money markets; major banks significantly reliant on central bank support.

Timeline

September 08

Recap of Events: GFC



Recap of Events: Provisions

- The provisioning standard applicable at that time (IAS 39), did not allow banks to take provisions in advance, even if they knew there were significant problems ahead.

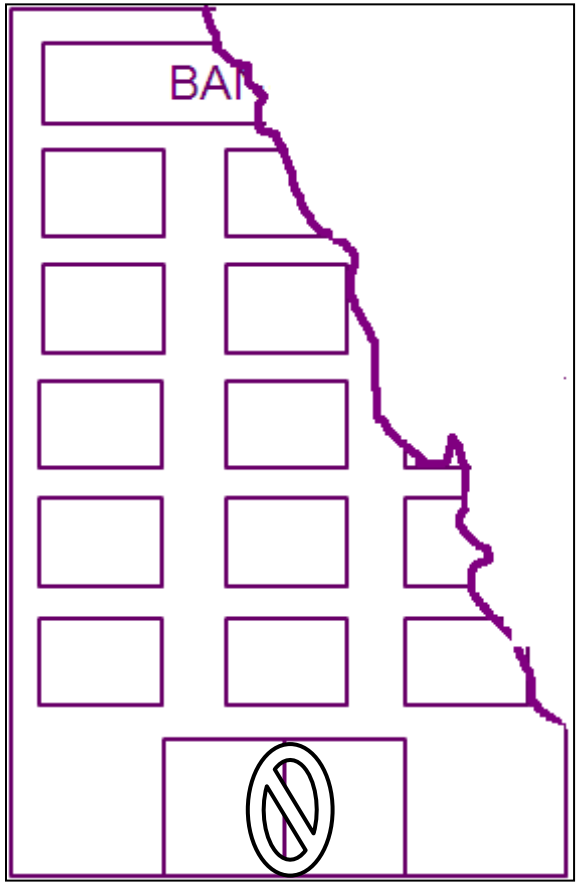
- It also mean that banks had the freedom to make wide-spread assumptions on the levels and timings of returns that could me made from non-performing loans. This allowed them to smooth the P&L and provision amounts.

- Hence, they could continue to recognize profit from an asset that was likely to fail later on.

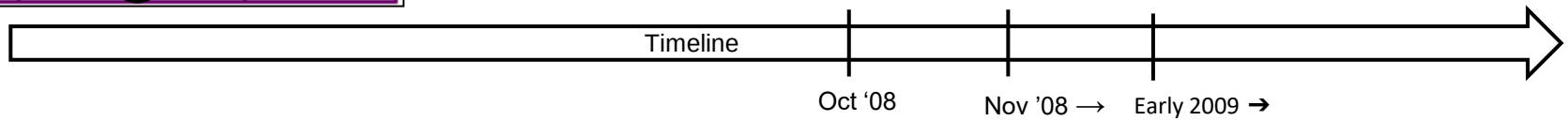
- At the same time, once the asset did fail, they would have to suddenly take provisions or write-offs against it. This meant they often made forced sales into a falling market or the stress in the marked made it harder to value the asset and lead to increased conservatism.

- This in turn lead to further falls in the valuation of assets, leading to additional provisions or losses having to be incurred.

Recap of Events: The Response



- Government recapitalisation, funding guarantees and central bank support
- Feedback loops between banking system and economy. Further government measures to offset feedback loop risk.
- Attempts to reduce procyclicality – IFRS9
- Attempts to restore confidence



The Birth of IFRS 9

Background

- IFRS 9 arose as a response to the global financial crisis in 2008/9 to replace IAS 39, which defined the principles of recognition, measurement and disclosures of financial and non-financial instruments.

- During the crisis, the delayed recognition of credit losses on loans and other financial instruments (incurred loss model in IAS 39) was perceived as a key contributory factor to the delayed recognition of credit losses.

- IFRS 9 therefore moves us from an incurred loss to an **expected loss** approach, so that there is a more timely recognition of expected losses for assets held by banks.

Difference between IAS 39 and IFRS 9

IAS 39 Classification

- Rule based
- Complex and difficult to apply
- Multiple impairment models

IFRS 9 Classification

- Principle based
- Classification based on business model and nature of cash flows
- One impairment model

Incurred Loss Model (IAS 39)

- Assets regarded as impaired if there is no longer reasonable assurance that the future cash flows related to them will be collected in their entirety when due.

- Triggering events that banks would be looking to identify to indicate impairment can include the entity they have lent to:

  - Experiencing notable financial distress
  - Past due on interest or principal payments
  - Likely to undergo a major financial reorganization or enter bankruptcy
  - Being in a market that is experiencing significant negative economic change

Incurred Loss Model (IAS 39)

- Timing and measurement of losses based on estimating losses that have already been incurred as of the balance sheet date.

- Hence, provisioning is limited to losses that are considered probable as of the balance sheet date.

- Does not allow credit losses based on events that are expected to occur in the future to be included in provisions until the event or events have occurred. In addition, these need to be supported by observable evidence ("triggered events").

Incurred Loss Model (IAS 39)

- More subjective in nature, as it is based significantly on the estimate of cash flow expectations. This process of analyzing future cash flow streams is inherently subjective and represents potential to become susceptible for earnings management.

- The global financial crisis highlighted one of the weaknesses of this model – namely, the delayed recognition of credit losses which, during the "good years" before the crisis, resulted in banks not provisioning adequately for credit losses that were likely to arise from emerging risks.

- As a result, recognition of losses were deemed to be "too little too late", potentially increasing pro-cyclicality, whilst interest revenue was overstated until 'trigger events' occurred.

Expected Loss Model (IFRS 9)

- This captures all banks and companies that hold financial assets or commitments to extend credit that are not accounted at fair value through profit or loss (e.g. trading book exposures).
- No longer necessary for a credit events to have occurred before losses are recognized. Estimates of future cash flows used to determine the present value of the investment are made on a continuous basis.
- Expected credit losses and changes in expectations regarding credit losses recognized and updated at each reporting date to reflect changes in credit quality.
- Introduction of significant deterioration criteria.
- Entities have to account for expected credit losses from when financial instruments are first recognized and then to recognize full lifetime expected losses on a more timely basis.
- Hence more timely and forward-looking information required – to make provisions more prudent and reduce income smoothing.

The Three Stages of Impairment

Three-Stages of IFRS 9 Impairments

STAGE 1	STAGE 2	STAGE 3
Performing Initial Recognition	Under-Performing Significant increase in Credit Risk	Non-Performing Credit impaired assets
12 month Expected Credit Losses	Lifetime Expected Credit Losses	Lifetime Expected Credit Losses
Effective interest on gross carrying amount	Effective interest on gross carrying amount	Effective interest on amortised carrying amount (i.e. adjusted for loss allowance)

Lower Credit Risk — Change in Credit Risk since initial recognition — Higher Credit Risk

Three-Stages of IFRS 9 Impairments – Stage 1

- As soon as a financial instrument is originated / purchased, its 12 month expected credit loss needs to be calculated and reported in the P&L.
- 12 month EL = 12 month PD * LGD
- So, **not** expected cash shortfalls over the 12-month period **but** the entire loss on an asset weighted by the probability that the loss will occur in the next 12 months.
- Effectively, this is the initial expectation of credit loss that is priced into the financial instrument.
- Interest revenue is calculated on the gross carrying amount of the asset (without adjustment for the loss allowance.)

Three-Stages of IFRS 9 Impairments – Stage 2

- As soon there is a significant increase in credit risk / deterioration in credit quality, the asset needs to be moved into the Stage 2 bucket.
- Full lifetime credit losses now have to be reported.
- Calculation of interest revenue remains unchanged from Stage 1 (i.e. calculated on the gross carrying amount).

Three-Stages of IFRS 9 Impairments – Stage 3

- Credit quality has now deteriorated to the point when the credit quality of the asset deteriorates to the point that credit losses are incurred / asset is credit-impaired.
- Lifetime expected credit losses continue to be reported.
- Interest revenue calculated on the net amortised carrying amount (i.e. adjusted for the loss allowance).
- Note – assets can move both ways through the buckets. From Stage 1 to 3 and then back from Stage 3 to 1.

Basel Committee Guidance on IFSR 9

Basel Committee Guidance on Accounting for Expected Losses

- Consultative document issued by the Basel Committee – *Guidance on credit risk and accounting for expected losses* (G-CRAECL).

- States that there is "significantly heightened supervisory expectations" for internationally active banks.

- Less complex banks should seek to apply a "proportionate approach" commensurate with the size, nature and complexity of lending.

G-CRAECL principles

1. Board of directors and senior management responsibility
2. Document and adhere to sound methodologies that address policies, procedures and controls
3. Process to group exposures on shared risk characteristics
4. Aggregate allowances (individual /collective) deemed adequate
5. Polices and procedures to validate internal credit risk models
6. Robust consideration of forward looking information
7. Common systems, tools and data to assess/price credit risk and account for ECLs
8. Reporting should promote transparency and comparability
9. Supervisors should periodically evaluate the effectiveness of credit risk practices
10. Supervisors must be satisfied that the methods employed to determine allowances produce a robust measurement of ECL
11. Supervisors should consider a bank's credit risk practices when assessing a bank's capital adequacy

G-CRAECL – Key Points

- *"Committee expects banks to develop systems and processes to use all reasonable and supportable information needed to achieve* ***high quality****… implementation…will potentially require* ***costly upfront investment****…long term benefit of a high-quality implementation far outweighs the associated costs, which should therefore* ***not be considered undue..****"*

- Use of practical expedients (low risk simplification and more than 30 days past due rebuttable presumption) should be used in limited circumstances

- Where entities rely on past due information to determine whether exposures should move the lifetime ECL measurement, the G-CRAECL suggests that the stage 1 allowance should be increased to compensate

- There are limited circumstances where information should be excluded because it is not considered 'reasonable and supportable'

G-CRAECL – Key Points

- Focus on making use of appropriate forward-looking information, including macroeconomic factors
- Emphasises need for effective credit risk rating systems
- When exposures are assessed collectively, it is expected that the results should be materially similar as if an individual assessment was made; guidance on how to demonstrate this is not given
- Models must be robustly validated
- Recommends that the definition of default adopted for accounting be guided by regulatory definitions
- ECLs are generally expected to be recognised before a financial instrument becomes past due or other lagging borrower-specific factors are observed

Key Modelling Decisions

- Most IRB banks will leverage on Basel models for IFRS 9, though significant adjustments are still required to Basel PD, LGD and EAD:

Basel Probability of Default (PD) →

- Transformation from 'through the cycle' to 'point in time'
- Incorporation of forward-looking expectations
- Terms structure (lifetime PD)
- Remove conservatism

Basel Loss Given Default (LGD) →

- Removal of 'downturn' calibration
- Removal of floors
- Discounting
- Recovery costs

Basel Exposure at Default (EAD) →

- Application of lifetime
- Removal of 'downturn' calibration
- Assessment of committed / non-committed lines of credit
- Inclusion of pre-payment probability

Key Modelling Decisions

- Other concepts also need to be considered:
  - **Definition of default –** general consensus is to align the IFRS 9 definition of default with the regulatory definition.
  - **Forward looking –** unlike Basel, parameters need to be forward looking and reflect the impact of expected economic scenarios.
  - **Level of conservatism –** conservatism should not be used as a tool to overcome model limitations.

Sophistication of ECL Models

- Banks should try to adopt sound ECL methodologies, which are in line with their size, complexity, structure, economic significance and risk profile

HIGH

- **Robust PD/LGD/EAD models that directly incorporate macro scenarios**
- **Extensive use of internal and external data and multiple scenarios**
- **More challenging to explain figures and changes to Management / Regulators**

MEDIUM

- **Internal PD model and management overlay for macro scenarios**
- **Less sophistication in LGD and EAD modelling**
- **High utilization of external benchmark data**

LOW

- **Significant management judgement to determine provisions**
- **Low level of automation**
- **Loss rate and roll rate approaches**

G-CRAECL – Definition of Default

- Emphasises that the 12 month ECL is based not only on the losses expected in the next 12 months but the expected cash shortfalls over the instrument life due to events that could occur in the next 12 months.
- It goes on to say that IFRS 9 does not directly define 'default' and the Committee expect that the definition adopted will be guided by the definition used for regulatory purposes. This includes both:
  - Qualitative 'unlikely to pay' events, described as **the primary indicator**, and
  - Delinquency (similar to the 90days past due rebuttable presumption in IFRS 9), as a backstop
- Also says that the Basel framework would include indicators identified on a collective basis, adjusted to include forward looking information

Forward-looking information

- New concept in impairment recognition
- Forward-looking estimates should affect both:
  1. Measurement of ECLs (12m and lifetime), and
  2. Allocation of exposure between buckets (stage transfer)

Challenges

- Consistency between measurement of ECL (12m and lifetime) and stage transfer
- Combining bottom up and top down estimation approaches.
- Alignment of forward looking expectations to other activities – e.g. forecasting, budgeting, stress testing.
- Is there a need to forecast multiple future macro-economic scenarios?
- Frequency of revising expectations – e.g. sharp increase in interest rates or unemployment etc.
- Forecasting provisions under base and stress.
- Forward looking expectations can impact lifetime estimation – e.g. property prices.

Forward-looking information

Industry experience

- Forward looking expectations are most commonly implemented using macroeconomic regression models for the different parameters (PD, LGD and EAD). Such regression models can vary in sophistication from portfolio level to account level models.

- If impairments are derived using parameters that are not forward looking, adjustments needs to be made to ensure that the forward looking aspect is captured in other ways. A couple of "top down" ways of doing this are:
  - A management overlay is calculated to add onto the provision. A strong rationale, however, will be necessary to justify why a more granular option is not possible.
  - A hybrid approach can be used where high-risk sub-portfolios / segments are identified and move to stage 2 where they become subject to a "bottom-up" impairment calculation.

G-CRAECL – Use of forward-looking information

- Emphasises the need for explicit documentation of:
  - What macro-economic factors will be considered in the methodology.
  - What other more qualitative forward looking information is considered

- Management should still apply their experienced credit judgement in making forward-looking assessments.

- Need to consider how the forward-looking information and judgements link to the ECL calculation for portfolios.

- Forward looking forecasts for collateral valuation also important in determining LGD.

G-CRAECL – Used of forward-looking information

- What governance forum(s) discuss, challenge and approve forward looking forecasts? Which senior managers sit on these?

- Need to clearly evidence key assumptions and judgements being made.

- Need to ensure consistency of inputs, both across divisional portfolios but also across the wider bank, to include the bank's credit model design, governance, risk, capital planning, stress testing framework etc.

- There is some tension between using IFRS 9 and other processes across the bank, because IFRS 9 requires a probability-based approach, using multiple scenarios. This can be complicated when faced with large uncertainties (e.g. most recently the UK and Brexit).

Probability Weighting of Scenarios

- The expected credit loss and lifetime expected credit loss calculations should be automated and iteratively performed under alternate macroeconomic scenarios.

- Basic and Stress scenarios can then be applied as required by local regulatory practices.

- Probability weights can be applied to the different scenarios for calculating total expected loss.

Probability Weighting of Scenarios

Stage Allocation

- Stage allocation is based on the **weighted average LT PD** to reflect future outcomes.
- The weighted average LT PD is compared against the threshold criteria defined by the transfer criteria.
- The account is allocated to a unique stage

Probability Weighting of Scenarios

Stage Allocation – example

Transfer criteria = LT PD Threshold 20%

Scenario	Probability	12m PD	LT PD	LGD	EAD	12m ECL	LT ECL	Stage
X	30%	4%	5%	60%	1000	24	30	1
Y	45%	13%	17%	60%	1000	78	102	1
Z	25%	17%	22%	60%	800	82	106	2

Weighted 12m PD	Weighted LT PD	Weighted LGD	Weighted EAD
11%	15%	60%	950

- The account is allocated in stage 1 as the weighted LT PD is 15% - (30%*5%)+(45%*17%)+(25%*22%)
- Either the 12m or lifetime expected credit loss is used - based on the stage. Hence in the example above:

  ECL = (30%*24)+(45%*78)+(25%*106)= 69

Significant increase in Credit Risk

- This is the main new trigger introduced by IFRS 9, to justify the movement from stage 1 to 2. The timing of transfer from 12m ECL to lifetime ECL is one of the biggest applications of judgement within the Standard.

- Timing greatly impacts the overall ECL calculation, as it determines the proportion of the portfolio considered on lifetime ECL.

- IFRS 9 does provide a non-exhaustive list of factors that institutions can use in their judgement of whether significant deterioration has taken place. These are summarized below (earlier rather than later recognition is encouraged):

  - Significant change in internal price
  - Other changes in the rates of terms of an existing financial instrument
  - Significant changes in external market indicators such as
    - Credit spread
    - Credit default swap price
    - Duration that the fair value is less then the amortized cost
    - Other market information related to the borrower
  - Significant change in the credit rating
  - Internal credit rating downgrade
  - Significant change in the value of the collateral

Applying significant increase in Credit Risk

How to trigger

Common approaches to defining stage 2 transfer include:

- Using variation in PD; 12m vs. lifetime; relative vs. absolute; PiT vs. TTC
- Using watch list / high risk concepts
- 30 DPD rebuttable presumptions should only be used as a backstop, not sufficient to drive staging

Calibrating Significant Increase

Some of the list of factors in the Standard that must be considered in defining significant increase shown previously. Common approaches include:

- Magnitude can varied based on level of PD at origination and size of PD increase represented by grade/notch variation
- Typical shifts in PD could be 1 or 2 internal / S&P notches

Defining Origination

What constitutes "origination" and when do you 'reset the clock' from the perspective of significant deterioration?

- Initial point of origination?
- Facility renewal?
- Annual review / Limit change?
- Term Loan vs. Revolving credit facility consideration.

G-CRAECL – Significant increase in Credit Risk

- Assessment must include forward looking information e.g. expectation of forbearance or restructuring and use macroeconomic forecasts.
- The assessment must be performed collectively 'top-down', if it cannot be made using forward looking information individually.
- The committee expects processes for both credit risk practices and financial reporting to be integrated, with strong governance and control.
- Cannot rely on delinquency or use the low credit risk exemption
- Stresses the need for proper assessment of credit risk on origination, to enable the assessment of subsequent significant deterioration.

Stage 3 Assets

- For most banks, overall IFRS 9 provisioning will be largest on their impaired (stage 3) assets.

But even here challenges exist under IFRS 9

- Incorporating macro-factor forecasts into the provision estimate for impaired assets
- Satisfying IFRS 9 requirement to base estimation on at least **two** scenarios by probability-weighting scenarios likelihood of both credit loss and recovery with no credit loss as a minimum.

Disclosures - Objectives

- Financial institutions needs to disclose sufficient information to enable users to understand the **effect of credit risk** on the **amount**, **timing** and **uncertainty** of future cash flows. Disclosures should include:
  - Information on entities credit risk management practices and how they relate to recognition and measurement of ECL.
  - Quantitative and qualitative information to evaluate amounts in the financials arising from ECL.
  - Entities credit risk exposure including significant credit risk concentrations.

Additional Challenges

Financial Times, October 2017

fastFT UK banks

UK banks set to reveal impact of IFRS 9 on bad loan provisions

Martin Arnold OCTOBER 25, 2017

British banks will this week give investors their first glimpse of how a major change in the rules for calculating provisions on loan losses will impact their capital levels next year.

Lloyds Banking Group will kick off the process on Wednesday by publishing with its quarterly results an estimate of the effect on its capital levels from the new accounting rules known as IFRS 9, according to people briefed on the matter.

Barclays will follow suit on Thursday, followed by HSBC and Standard Chartered next week, the people said. All the banks declined to comment or did not respond to requests for comment.

RBS, which reports quarterly results on Friday, said in its interim results in August that it expected the overall change to have a positive impact, adding about 30 basis points to its capital position.

IFRS 9 requires banks to make provisions on their balance sheets for expected losses in the future, rather than losses they have already had.

By moving from an "incurred loss" to an "expected loss" model, regulators hope to avoid problems that occurred during the crisis when banks could not book accounting losses until they happened, even though they could see them coming. It is hoped this will help keep banks properly capitalised to cover loans they have made.

Additional Challenges Around IFRS 9

Additional Challenges

- In addition to the issues already discussed, there are a number of other specific challenges that IFRS 9 introduces:

DATA

The key items needed for staging, 12m and lifetime models are often unavailable. For example:

- Missing origination PD
- Product features (term; type of product) at origination
- Origination PD often different from historic models
- Cross default information
- Risk data often different from Finance data

Additional Challenges

DATA PROCESSING

Even where data is available, significant work is required before it can be used for modelling:

- Data set is often spread across multiple sources and (legacy) systems
- Historic data often follows different classification
- Key variables are not available or used/completed inconsistently

Additional Challenges

Revolving Facilities

- Definition of origination is unclear – do you use the first origination, the last full review, or the last change in contractual terms?
- Definition of maturity can also be unclear – up to the time of the next review?
- How do you deal with unutilized limits and the likelihood of future drawdowns? Needs to be modelled in EAD, but need to use both historical data plus forward looking expectations.

Additional Challenges

Low Default Portfolios and Non-Modelled Exposures

The expectation is that banks will rely on statistical processes to estimate losses for Stage 1 and 2. Some portfolios present challenges:

- Large low default portfolio – Sovereigns, Financial Institutions etc.
- Non-modelled exposures – banks with portfolios that are on Standardised will not be able to benefit from a strong modelling suite to help model ECL.

Low default, low loss and non-modelled portfolios

- These assets have never or very rarely experienced default over the last decade and so traditional statistical methodologies such as logistic regression is not suitable.

- Current regulatory approach for these assets is quite conservative and not very advanced – most such assets reported under the Standardised or Foundation approaches. Examples include:
  - **Loans and advances to banks:** Assets that behave as collateral call accounts related to Credit Support Annex (CSA) or operational accounts for clearing etc.
  - **Primary liquidity bonds:** government bonds etc. held for liquidity purposes.
  - **Structured Finance:** Pools of illiquid assets – e.g. ABS, RMBS, CLOs etc. Risk is 'diversified' among different investors through securitization.
  - **Government supported assets:** Social housing, schools, project finance – assets supported by (local) government initiatives therefore less likely to default. May witness higher volatilities depending on political uncertainties.

Low default portfolios (LDP) - challenges

Conservatism estimates

- Common approaches for LDP are conservative by nature
- Producing best estimate of default will require stripping away conservative overlays, which may be expert judgement driven and can be challenged.

Forward Looking

- Embedding cyclical, forward-looking predictions in producing Expected Credit Loss estimates are a major analytical challenge.
- Macro-economic factor correlation to observed defaults may be weak.
- Not enough historical data differentiation available to make a probability-weighted best estimate outcome.

Low default portfolios (LDP) - challenges

Model Risk

- Different methodologies and assumptions can lead to significant variances in PD estimates.
- Data availability can further exacerbate this.

Data Availability

- Recovery data is even more sparse than default data.
- Qualitative assumptions can be challenged by auditors/regulators and harder to justify.
- Use of external data may not properly represent portfolios and again can be challenged.

Parallel Run

- Larger banks are generally planning a parallel run between IAS39 and IFRS 9 provisioning. This would involve end-to-end calculations, reporting, technology and operational reliability of the overall solution. There should also be a dry run process to test the governance processes.

- All this is critical to ensure a stable environment in the production of provision estimates, to anticipate the financial impact and to also inform decisions on IFRS 9 methodologies.

- Critical for regulators to be involved in assessing the parallel run, in order to understand how well the bank is prepared, what the key issues and constraints are, and to gauge the potential impact of IFRS 9 on the bank and its external stakeholders.

Impacts on Banks

Investor View

- Many investors unconvinced standards will be an improvement
- Increased volatility (stage 1 to stage 2)
- Increased subjectivity and judgement – lower comparability

Business Impacts

- Capital
- Risk appetite
- Pricing approach
- Finance planning process and stress testing

Regulatory Capital Projects

- Stress testing
- Risk data aggregation and reporting
- Forbearance
- Non-performing exposures
- Advanced IRB roll out

IFRS 9 Projects

- End-to-end IFRS 9 execution plan
- Parallel run approach
- Timelines
- Costs assessment

External Reporting

- Disclosure of impact to the market
- Statutory accounts
- Regulatory reporting
- External reporting process

Operating Model

- Risk and finance alignment
- Use of IRB models
- Model validation
- Overhaul of data and systems – data availability
- Process, governance and controls

Summary – Key Changes from IAS 39 to IFRS 9

- The new IFRS 9 impairment requirements eliminate the IAS 39 threshold for the recognition of credit losses, i.e., it is no longer necessary for a credit event to have occurred before credit losses are recognised.

- Instead, an entity always accounts for ECLs, and updates the loss allowance for changes in these ECLs at each reporting date to reflect changes in credit risk since initial recognition.

- Consequently, the holder of the financial asset needs to take into account more timely and forward-looking information.

Summary – Key Changes from IAS 39 to IFRS 9

The scope of the impairment requirements is now much broader.

- Previously, under IAS 39, there were different impairment models for financial assets measured at amortised cost and available-for-sale financial assets.

- Under IFRS 9, there is a single impairment model for all debt instruments measured at amortised cost and at fair value through other comprehensive income. Furthermore, loan commitments and financial guarantee contracts that were previously in the scope of are now in the scope of the IFRS 9 impairment requirements.

Summary – Key Changes from IAS 39 to IFRS 9

- Previously, under IAS 39, loss allowances were only recorded for impaired exposures. The new impairment requirements result in earlier recognition of credit losses, by necessitating a 12-month ECL allowance for all credit exposures not measured at fair value through profit or loss.

- In addition, there will be a larger allowance for all credit exposures that have significantly deteriorated (as compared to the recognition of incurred losses under IAS 39 today). While credit exposures in stage 3 are similar to those deemed by IAS 39 to have suffered individual incurred losses, credit exposure in stages 1 and 2 will essentially replace those exposures measured under IAS 39's collective approach.

Summary – Key Changes from IAS 39 to IFRS 9

- The ECL model is more forward-looking than the IAS 39 impairment model.

- Holders of financial assets are not only required to consider historical information that is adjusted to reflect the effects of current conditions and information that provides objective evidence that financial assets are impaired in relation to incurred losses, but they are now required to consider reasonable and supportable information that includes forecasts of future economic conditions including, where relevant, multiple scenarios, when calculating ECLs, on an individual and collective basis.

Key Questions to Discuss with Banks and Their Auditors

Sources of Complexity

- How have the key sources of complexity, judgement and uncertainty been identified in the bank's estimate of ECLs under IFSR 9?
- How do the skills, knowledge and resources in the bank's IFRS 9 modelling team align with the above?
- What are the bank's controls over the key sources of complexity, judgement and uncertainty?

Data and Models

- Reliability and relevance of data sourced from different functions and systems of the bank and external sources.
- Have the models been robustly tested and validated?
- What are the limitations of the models and are these appropriately addressed by management?

Judgements

- Supervisors should test and challenge the bank's key judgements and assumptions in its estimate of ECLs. This should include:
  - Definition of significant increase in credit risk
  - Selection of multiple, probability-weighted forward looking economic scenarios

- What are the potential areas of bias in the bank's estimate of ECLs?

IFRS 9 Experiences

Differing Approaches

- Banks have encountered a mix of issues implementing IFRS 9, including data quality and loan-loss modelling.
- Switching to an “expected credit loss” standard has forced lenders to revise their forecasting methods, in some cases from the bottom up.
- The most successful banks started early, taking a strategic approach that linked IFRS 9 with other systems such as stress testing.
- Other banks took tactical approaches emphasising getting their IFRS 9 projects up and running quickly; more often than not, they encountered difficulties.
- The biggest challenge has been co-ordinating risk and finance, which have never had to work together on such a large-scale basis.

Risk and Finance

- One global universal bank spent three years implementing IFRS 9, employing more than 300 people at the project's peak. It went through eight different cycles of testing before it went live.

- One large North American bank opted for a low-cost implementation that leveraged its existing Basel capital processes and data for not just model building, but also for the ECL calculations. The cost was low – under $1 million.

- But the approach has thrown up operational hurdles. Because IFRS 9 touches both risk and finance, the risk team is now having to field questions on a regular basis from the finance department over the bank's required disclosures.

- In retrospect, the bank would have been better opting for a platform that houses the data, processing and the models. This would have provided an efficient way to run multiple scenarios simultaneously and perform ECL calculations, allowing users from finance to create customised queries.

Economic Scenarios

- As well as risk and finance, banks have had to draft in their economics teams to help with scenario analysis. In order to derive ECLs, firms must develop models to estimate probability of default and loss given default under multiple macroeconomic scenarios, which are used to classify loans into the three different IFRS 9 stages. Then the models are applied to a bank's loan portfolio to calculate ECL.

- There have been significant challenges around macroeconomic scenarios and the number of scenarios to be used, because this is not specified in the standard itself.

- Hence, banks have had to make judgement calls depending on the complexity of their portfolio and their concentration. Scenario development has sparked some heated discussions between economics and risk departments over questions ranging from how much deviation there should be from the baseline scenario to adverse and severely adverse scenarios, and what probabilities to assign to those.

Buy or Build

- During the early stages of planning for the new regime, banks had a decision to make: develop a bespoke system internally or buy an off-the-shelf product from a tech vendor.

- Self-built systems entail considerable investment of time and resources, but the end result is a platform tailored to the exact needs of the company. This may have suited banks with large, complex operations, and deep enough pockets to fund the project. Buying from a vendor is a quick and easy fix, and can be convenient for firms with smaller, simpler businesses. But there is a cost premium for outsourcing this part of the development.

Models and Data

- The data and computing demands have proved onerous. Calculating ECLs involves feeding the parameters – such as probability of default and loss given default – created by the models into a 'calculation engine', which combines the parameters with the bank's position-level information, classifies the loans as either stage one, two or three, and then cranks out ECLs.

- Any model requires significant amounts of data, but IFRS 9 upped the ante by introducing data into the process that previously had never been used in the old IAS 39. The ability to access that data and verify its completeness and accuracy has been a major challenge in IFRS 9 implementations.

- Banks are now faced with the prospect of churning out ECL numbers every quarter, and subjecting them to the proper governance and review to be able to sign off the numbers.

- As a shortcut, most large banks have elected to repurpose their existing Basel II models for calculating required capital for IFRS 9 purposes. These internal-ratings-based models apply a through-the-cycle estimate for regulatory purposes, meaning potential losses are calculated over an entire economic cycle, including through a worst-case stress scenario. IFRS 9, on the other hand, requires a point-in-time estimate, where losses are calculated across fixed time horizons – either one year or over the lifetime of the loan.

Q & A

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