Transition from SA to IRB Approach

5th SEACEN – DB

Advanced Course on Credit Risk

Introduction

- Strategic considerations in migration to IRB
- Migration process
- Issues and challenges

Choice driven mostly by strategic considerations…

- Following trend? Don't want to be left behind
- Balance sheet structure. Investment banking style less suited vs. retail/ commercial banking
- Analyst expectations -> importance attached to IRB attainment and implications to ratings

…and potential capital savings vs. investment outlay

- Depending on portfolio mix and bias. Benefit higher if portfolio ratings or PDs better than average 1%
- Ability to demonstrate position in industry, to justify better CT
- More recognition of collateral vs. SA

Clear-cut decision if ratings already embedded in practice…

- Already adopting internal ratings. Part of risk management evolution or enhancements
  - More granular portfolio management, more differentiated products, more refined performance management
  - In line with growth/ expansion – bigger banks need more automated assessment -> ratings
- Rollout of parent practices

Be aware of pure compliance plays…

- In some banks, IRB implementation merely a regulatory compliance exercise
  - Use of ratings, especially in risk-based pricing, lag behind expectations

- Usually there is no turning back…
  - Not one time approval
  - But ratings to be refreshed annually…
  - Model requires continuous review, validation, recalibration, rebuilding, remodelling, revalidating etc
  - Hence, effort & commitment required must not be underestimated

IRB implementation leads to greater expectations elsewhere…

- ICAAP
  - If bank adopts IRB, expectations on Pillar 2 treatment for credit concentration risk increase
  - Must be more structured, refined and ratings-based
  - Require thinking on impact of less granular exposures on capital adequacy
- Pillar 3 disclosure requirement more demanding
  - More details needed
  - Supervisors may require external audit review

Should regulator mandate IRB adoption?

- Banks' own cost-benefit analysis to be main consideration
  - Size of portfolio
  - Complexity of business
  - Data availability
  - Human capital readiness
  - IT requirement

Mandatory migration can be justified…

- Underestimation of risk in SA causing misalignment of incentives
  - Banks with historically high loss rates and where current SA may not cover future losses
  - Unrated portfolio
- As min requirement for complex banks as part of financial stability considerations
- Prioritisation vs. other competing initiatives
  - May be made mandatory prior to adoption of other initiatives e.g. AMA

…Triggered by lack of confidence in rating agencies

- Rating agencies may not have sufficient history
- Slow adoption of best practices
- Weaknesses in internal process
  - Lack of policies and procedures
  - Lack of disclosure to public and investor
- However, bank's own history may not be enough
  - Inadequate downturn experience e.g. mortgage market in certain countries
  - Inadequate default experience e.g. sovereign, bank

Supervisor/ regulator must be ready…

- Ability to assess model robustness
  - May require specialised teams
  - Establishment of governance structure eg steering committee
- System upgrade to cater for increased data
- Ability to process those data
- Ability to understand macro picture comprising both SA and IRB banks
  - Understanding competitive forces and implication on level-playing field

Supervisor/ regulator must be ready…

- Ability to detect cherry-picking
  - Capital arbitrage when IRB not applied to all entities within group
- Understanding of intention behind Basel rules, hence undertake the appropriate supervisory actions
- Ability to provide more guidance where Basel is principle-based
  - For PD estimation, banks may explore external data to supplement shortage of internal data

IRB can bring other benefits…

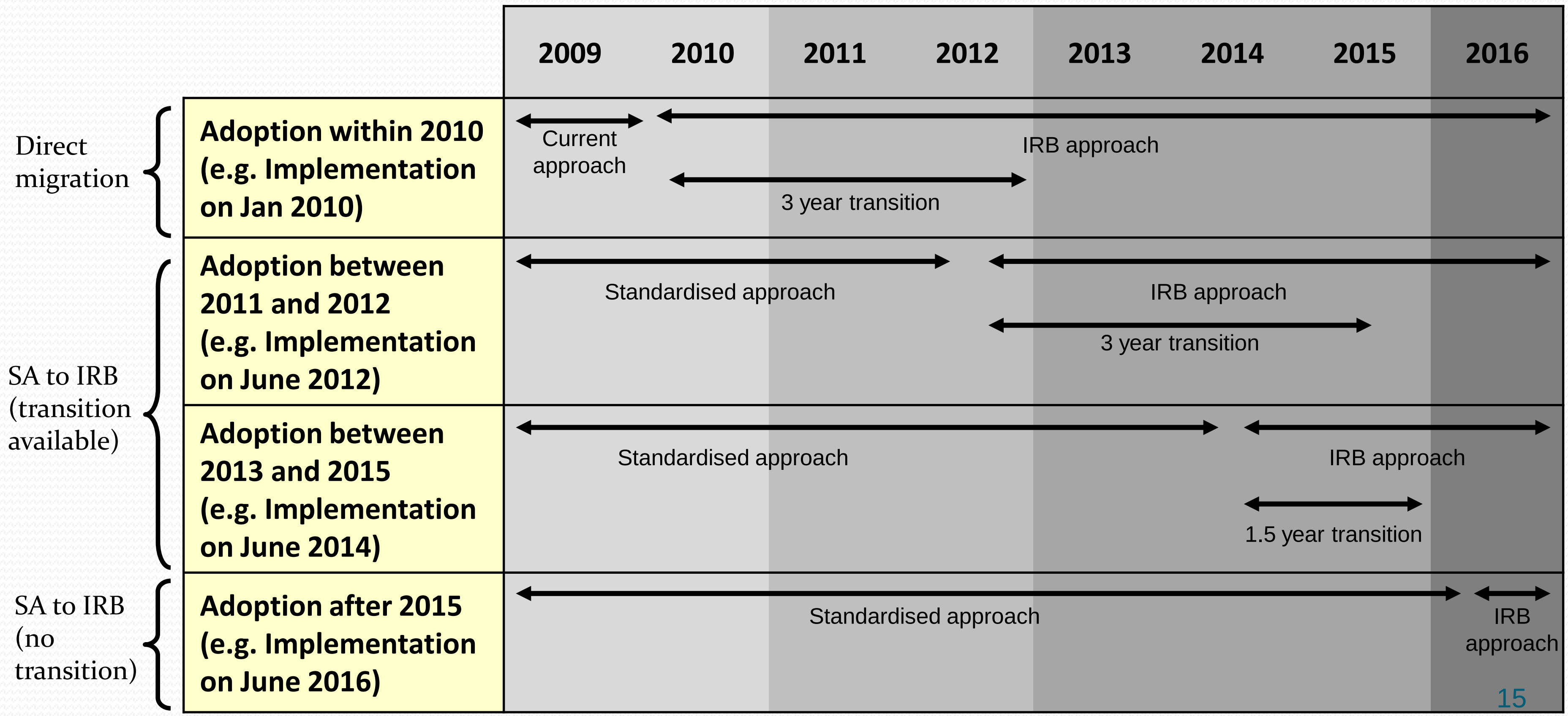
- Enhanced industry assessment
  - PD-LGD of banking industry -> potential loss distribution for entire industry
  - Leads to more refined macro stress test
- But watch out also for RWCR changes post implementation
  - Large increases covered by RWA floor
  - Large drops may lead to other consequences for e.g. triggering prompt corrective measures

SA forever?

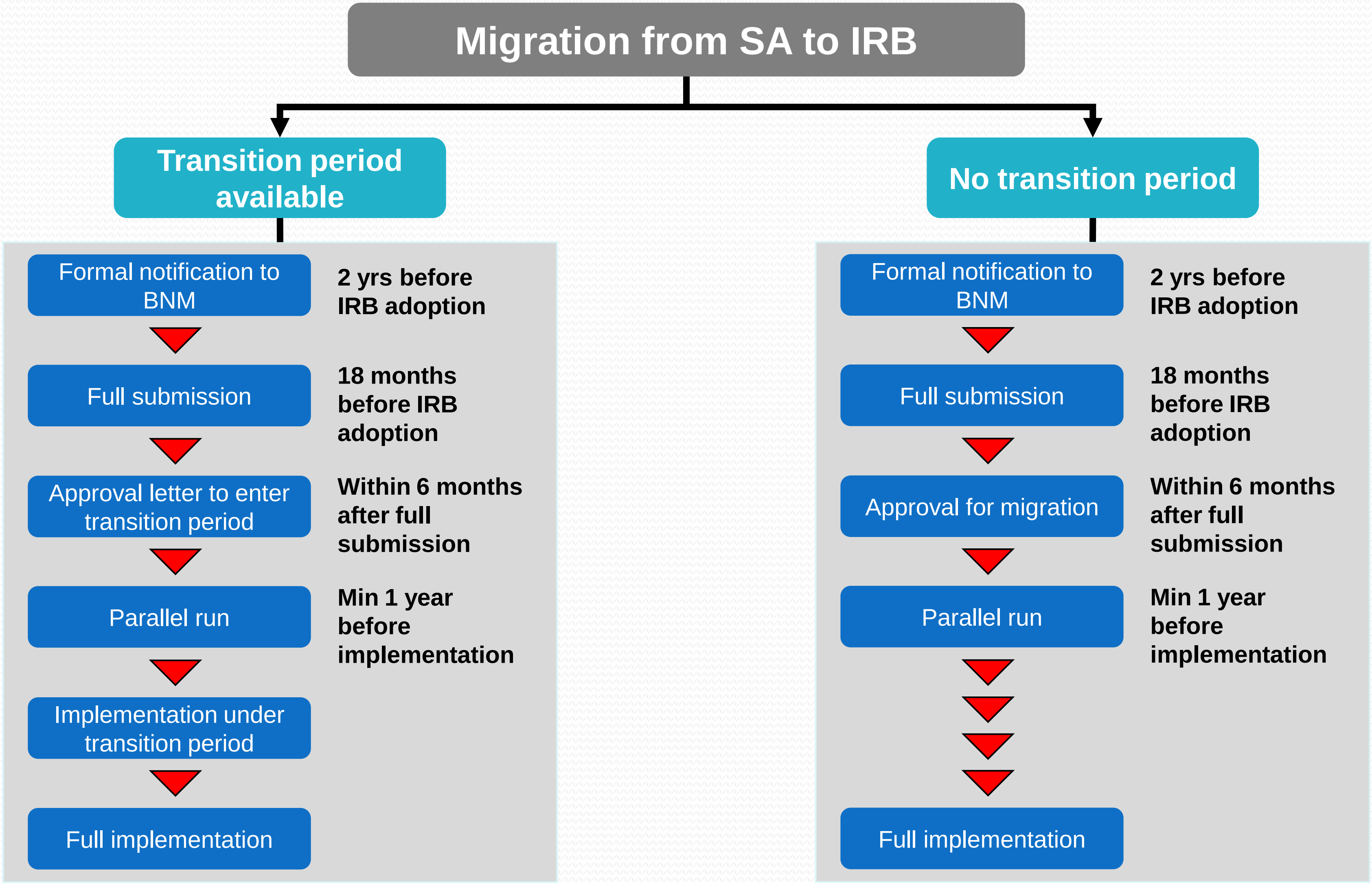
- Signifies no improvement in overall credit risk management
- Or simply choice of bank to remain in environment of low complexity, standard exposures
- Depends on strategic plan of bank as well as regulator

What is the timeline?

- The opportunity to implement the IRB approach is not a “one off”
- Banks can move from the SA to IRB as their risk management practices evolve and such a move makes sense
- Banks proposing to implement the IRB approaches can, and should, put in place timeframes that are realistic and achievable



Approval process



Supervisory assessment process

Desktop review → Onsite engagement → Approval → Regular monitoring

Desktop review

- FIs provide model development and validation document
- BNM to request additional info as and when needed

Onsite engagement

- Engagement with modelers, validators and key business head
- Walkthrough of system by FIs
- Further discussion on issue highlighted during desktop review

Approval

- Upon completion of supervisory review
- Assessment result to be presented to Management
- Approval given to eligible FIs

Regular monitoring

- Follow up on gap closure or outstanding issues
- Monitor performance of model via annual validation report prepared by FIs

Area of assessment under SA review

- Granularity of asset classification
  - On and off balance sheet item
- Operational requirement for CRM
  - Eligibility criteria
  - Frequency of valuation
- Use of external credit rating
  - Must be consistent, no cherry picking
- System capability
  - Enhanced system needed for more granular classification and reporting

Areas of assessment under IRB review

Quantitative components

- Rating system design
- Risk estimation
- Validation

Qualitative components

- Governance & oversight
- Rating system operations
- Use of internal ratings & risk estimates
- Independent review
- Credit risk mitigation

IT & data governance

- IT infrastructure (rating system engine, capital calculator, risk data-mart)
- Data governance

Objectives

- Meaningful risk differentiation
- Reasonably accurate and consistent risk estimates
- Consistent use of rating model output in daily business
- Timely risk and regulatory capital reporting

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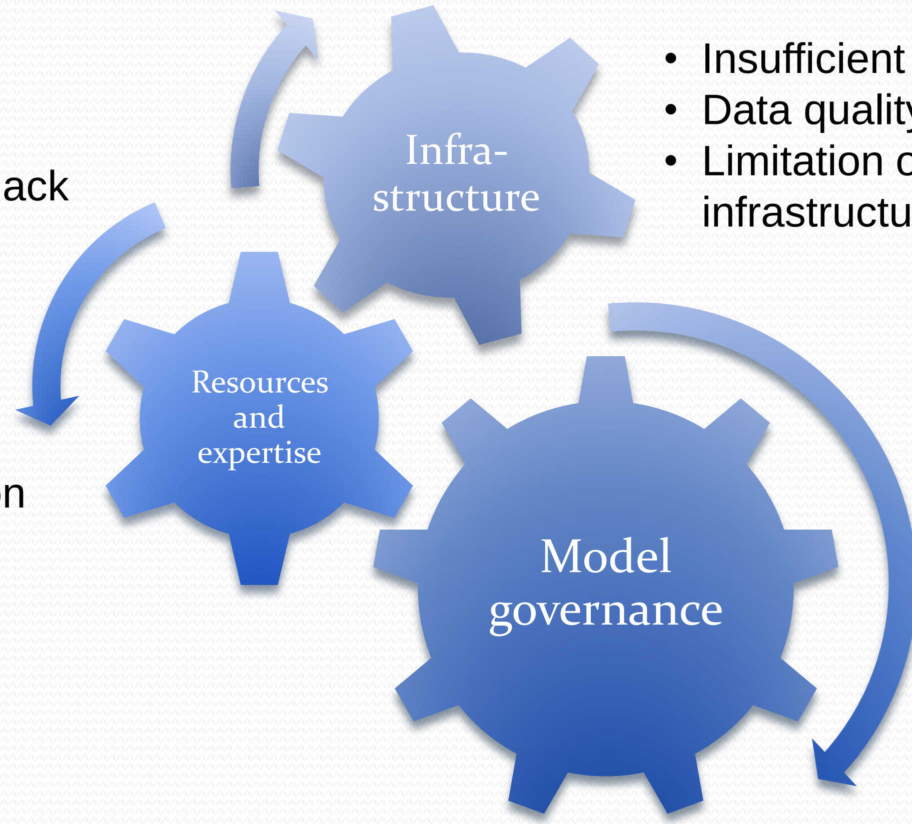
Potential Issues and challenges

- Scarcity of resources and lack of technical expertise
- Insufficient challenge by validators
- Over-reliance on 3rd party



- Insufficient historical data
- Data quality compromised
- Limitation on capability of IT infrastructure

- Weak model governance and policy
- Disconnect between theory and use

IRB implementation hampered by lack of data, leading to modeling issues….

- Very common in emerging economies
  - Although defaults are aplenty, these data were not diligently collected
  - Due to legacy issues and system limitation
- Lack of data leads to high standard errors
  - Leads to unstable factors
- Some may resort to using proxy
  - Leads to issues on representativeness of estimates

IRB implementation hampered by lack of data, leading to modeling issues….

- Increases volatility and stability of output in end-use, especially capital allocation and pricing
  - Are we comfortable with this?
- Difficult to define complete cycle for calibration
- Hence, difficult to identify correct underlying trend
- This may affect conservatism of calibration
- Is past data still representative of future behavior?
  - Require proper justification

Model governance and policy requires further enhancement

- Weak model governance and policy
  - Absence of governing policy and framework
  - Quality of reporting to Board and SM need enhancement
- Use not pervasive
  - Tough buy in from business – most often risk management driven following regulatory requirement

Available expertise with appropriate skill is scarce

- Lack of expertise - modeler / validator
- Insufficient challenge by validator
- Leads to other governance issue :
  - Independence of modeler vs. validator
  - Reliance to 3rd party model
- Key-man risk
  - Insufficient pool of talent encouraged staff pinching

Thank you