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Open challenges of Stress Testing under IFRS 9

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AGENDA

- IFRS 9 Modelling challenges
- Stage Migration
- Forward Looking Economics

INTRODUCTION

Integrating IFRS 9

- IFRS 9 has now been implemented across financial institution, leaving them to face the next challenge of integrating the new standard within other areas, such as financial planning and stress testing.
- Since 2018 stress testing must be run on an IFRS 9 basis, either within the Concurrent Stress Test (CST) for the biggest UK organisations or as part of individual firms' yearly Internal Capital Adequacy Assessment Process (ICAAP).

INTRODUCTION

Integrating IFRS 9

- The new provisioning approach has a significant impact on the timing of impairment recognition and consequently on the evolution of a firm's capital position throughout a stress scenario.
- This aspect was highlighted by the first round of stress test conducted in 2018.
- In this presentation I will discuss the main modelling challenges that in our experience lenders are facing in embracing this transition and producing IFRS 9-compliant stress testing figures.

IFRS 9 MODELLING CHALLENGES

IFRS 9 Modelling Challenges

Staging and Lifetime Expected Credit Losses

Staging

- A completely new approach to impairment modelling and forecasting.
- At each reporting date an exposure must be allocated to one of three ***Stages (1/2/3)*** depending on its change in credit quality since origination.

Lifetime ECL

- Exposures that have experienced a 'Significant Increase of Credit Risk' (SICR) are allocated to Stage 2 and assigned provisions calculated on a ***lifetime basis.***
- Exposures remaining in Stage 1 are allocated 12 months provisions.

SICR

- ***SICR*** criteria are defined based on both ***quantitative*** and ***qualitative*** indicators.
- Quantitative SICR is typically derived based on historical performance.

IFRS 9 Modelling Challenges

More granular PD Models and the Forward Looking element

Lifetime PDs

- Quantitative SICR assessment is done comparing ***Lifetime PDs*** at reporting date with (the remaining part of) Lifetime PDs at Origination.
- Lifetime PDs are also used for Lifetime ECL calculation.

FL

- Under IFRS 9 PDs, as well as all remaining Expected loss components, must be ***Forward Looking (FL).***
- Lifetime curves must incorporate an assessment of future economic expectations.

MES

- ***Multiple Economic Scenarios (MES)*** must be incorporated in PD calculation, with distinctive weights.
- SICR can depend not only from behavioural changes, but also from expectations on the economy.

IFRS 9 Forecasting Challenges

Significant IFRS9 implications on forecasting

Stage Migration

- Stage transitions is one of the most challenging aspects of IFRS 9 forecasting, particularly under stress.
- Limited historical data on which to calibrate the stress effect is a major constraint.
- Stage migration approach should be aligned to methodology used for Actuals Staging.

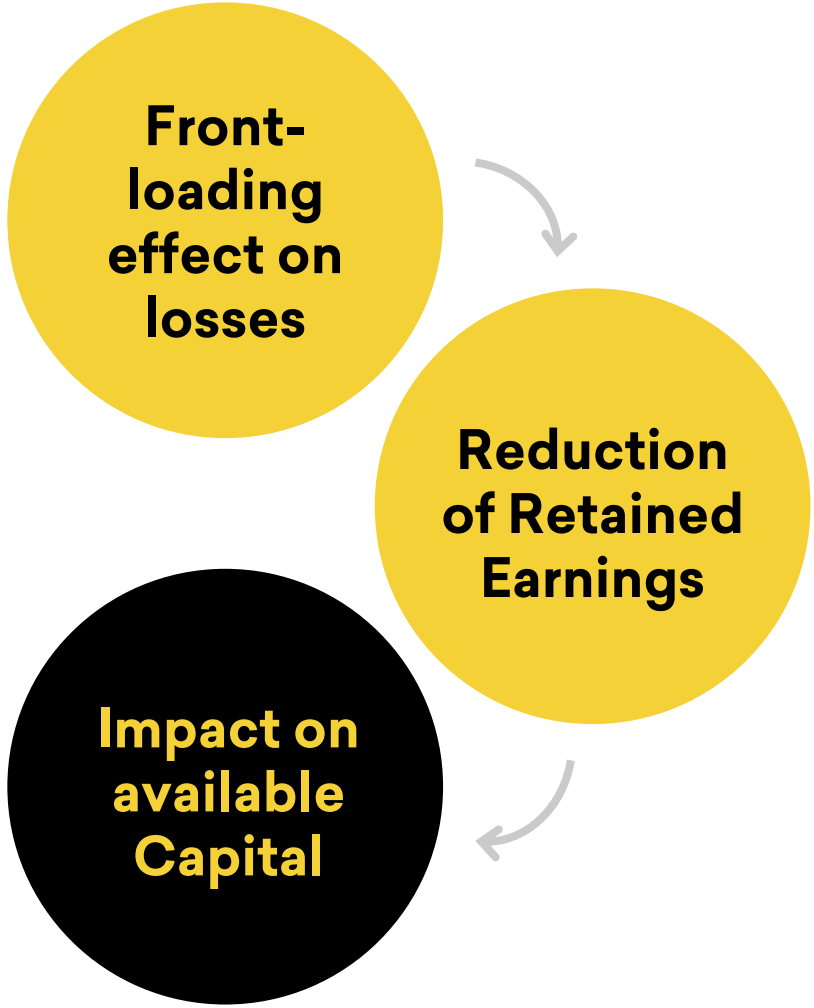
Perfect Foresight

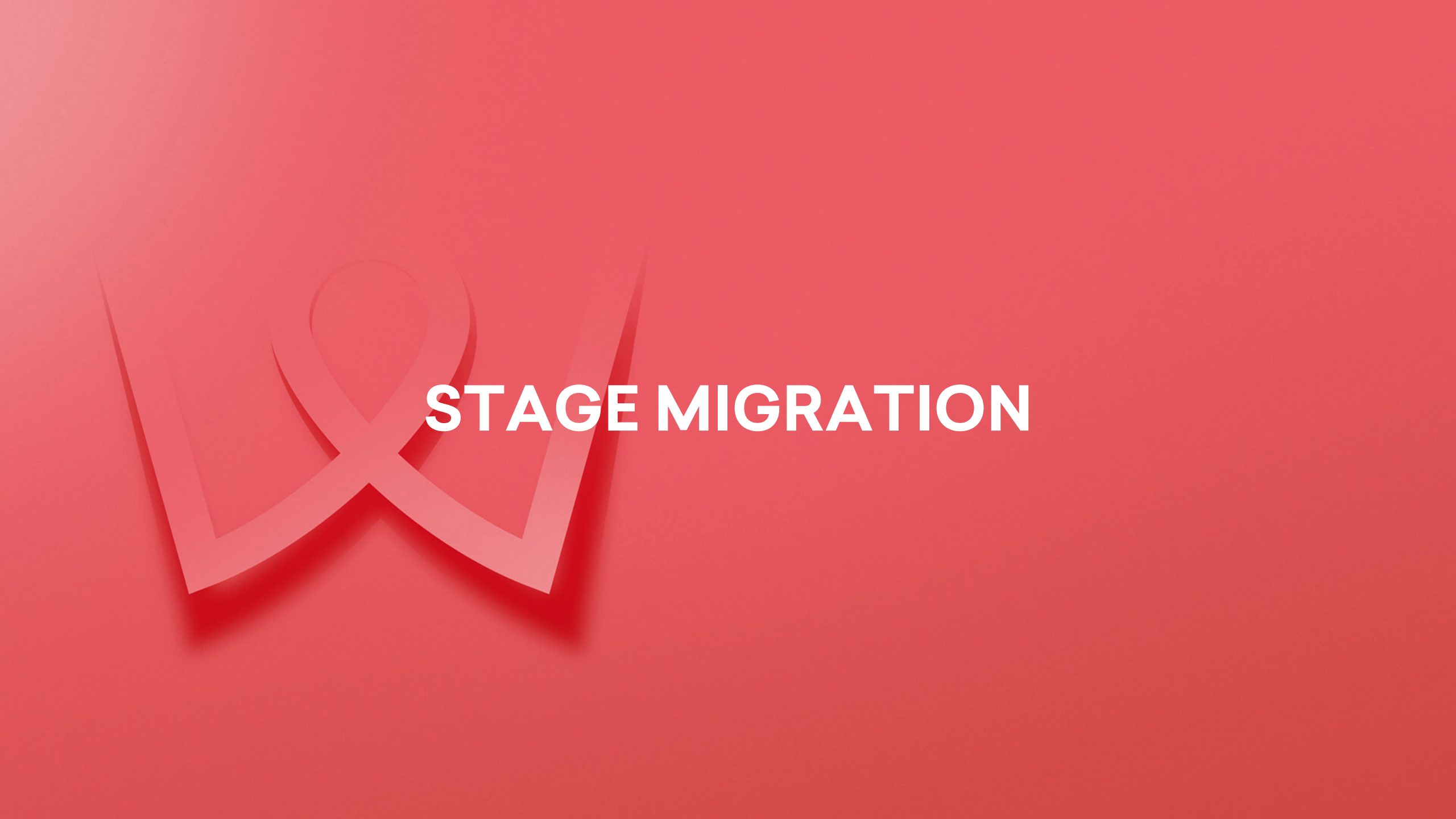
- The IFRS 9 Forward Looking element introduces an additional layer of complexity in forecasting.
- FL implies that an asset's movements must be estimated from each forecast point onwards.
- As a consequence, a new path for macro-economic variables could be potentially introduced at each forecasting date.

IFRS 9 Forecasting Challenges

Impact of IFRS 9 on Capital position through stress

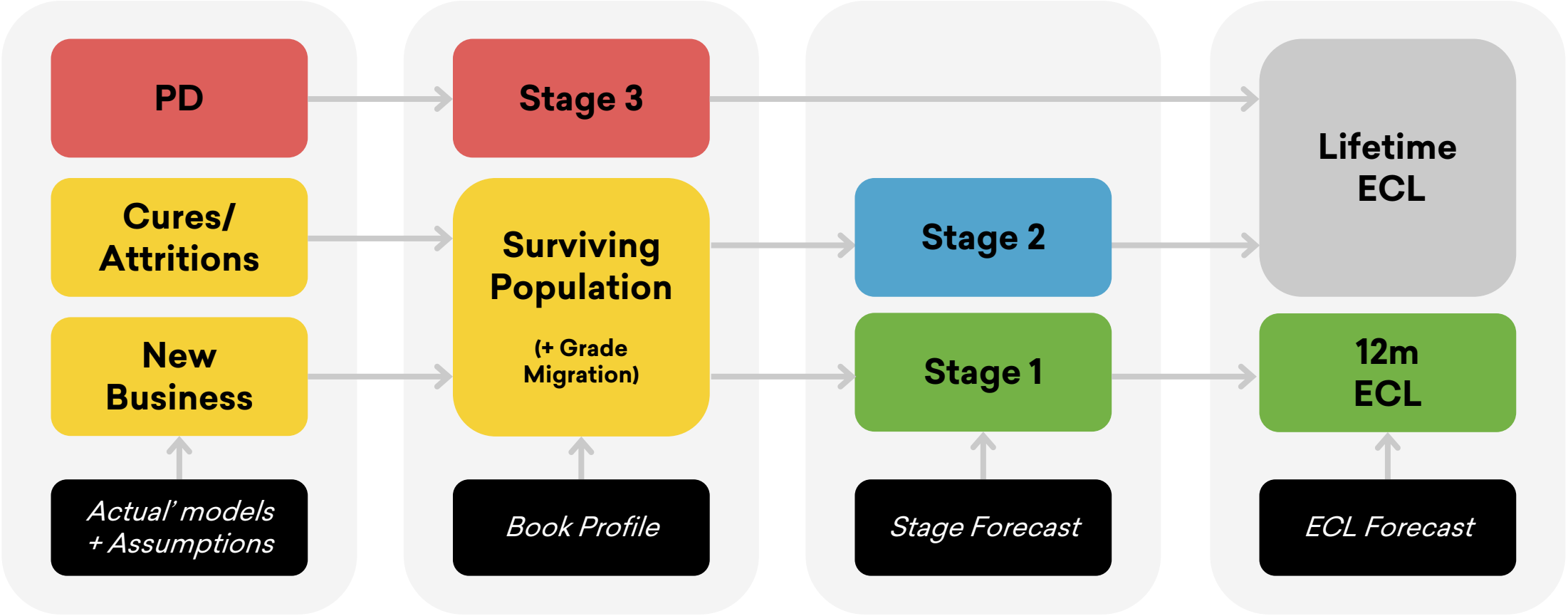
- IFRS 9 determines an increase of expected losses (provisions) in the early part of the forecast.
- Provisions affect available capital through Retained Earnings.
- This impact is particularly significant under stress.
- Hence the importance of building a robust forecasting framework under the new accounting standards.

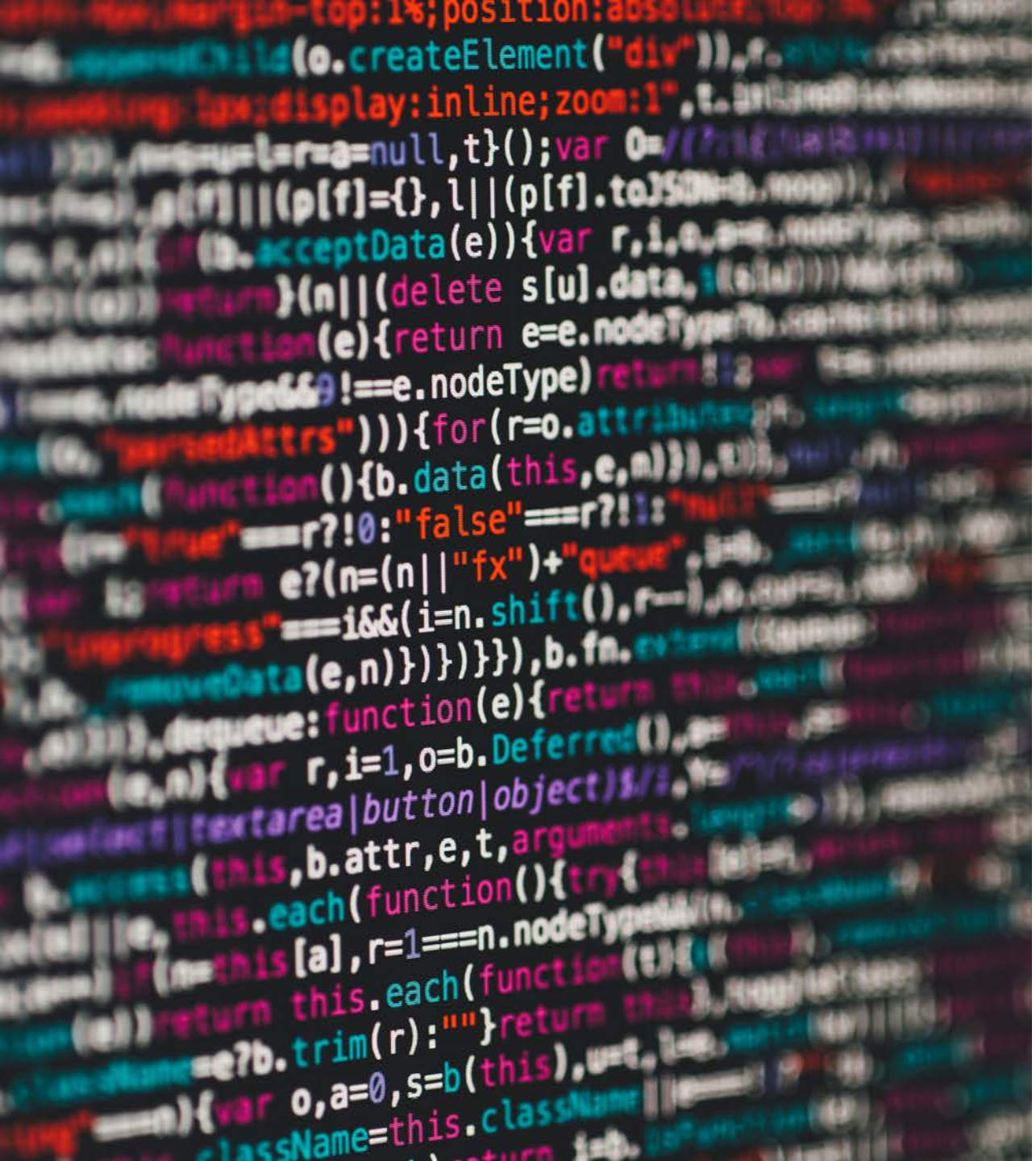



STAGE MIGRATION

IFRS 9 Forecasting

Forecasting framework components





Stage Migration

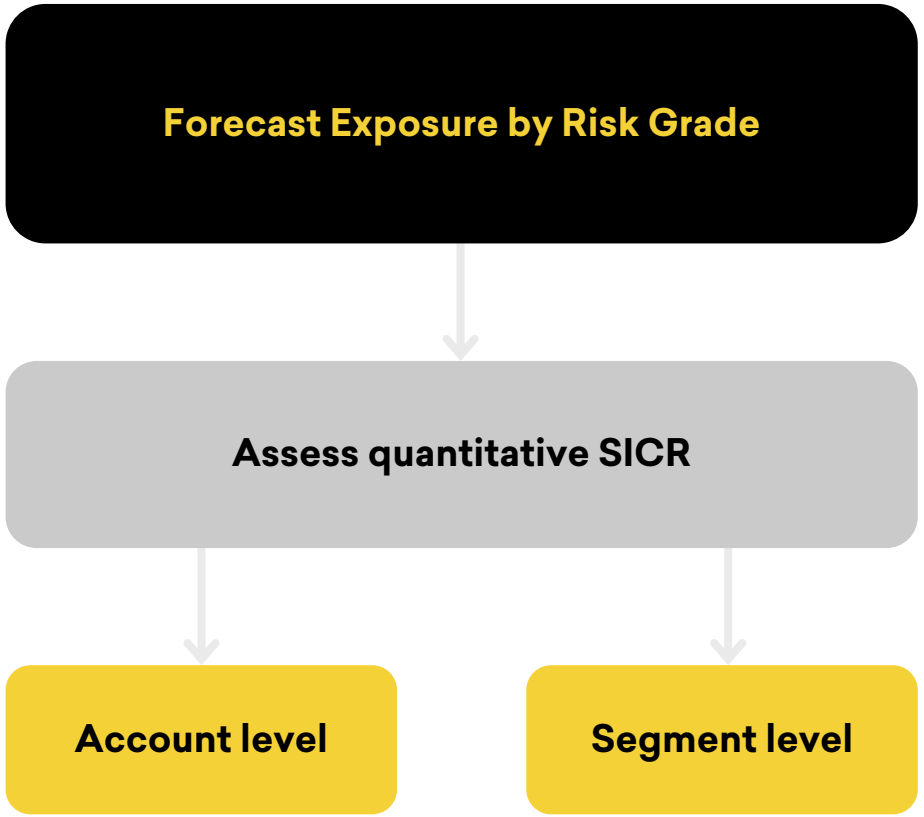
Measure movements across Stages through the forecast

- In order to calculate the correct ECL (i.e. over 12 months or lifetime) it must be determined in which Stage an asset will be, at each future forecast point.
- Determining Stage migration throughout the forecast is one of the most challenging aspects of IFRS 9, particularly when limited historical data is available.
- The approach adopted should be aligned to the Stage Allocations methodology used for the Actuals impairment calculation.
- Typically it will depend on data availability and portfolio size.
- Future Stage Distribution needs to be derived based on quantitative SICR, but also for backstop rule and qualitative indicators.

Approach 1 - Full PD Comparison

Compare PDs using quantitative SICR

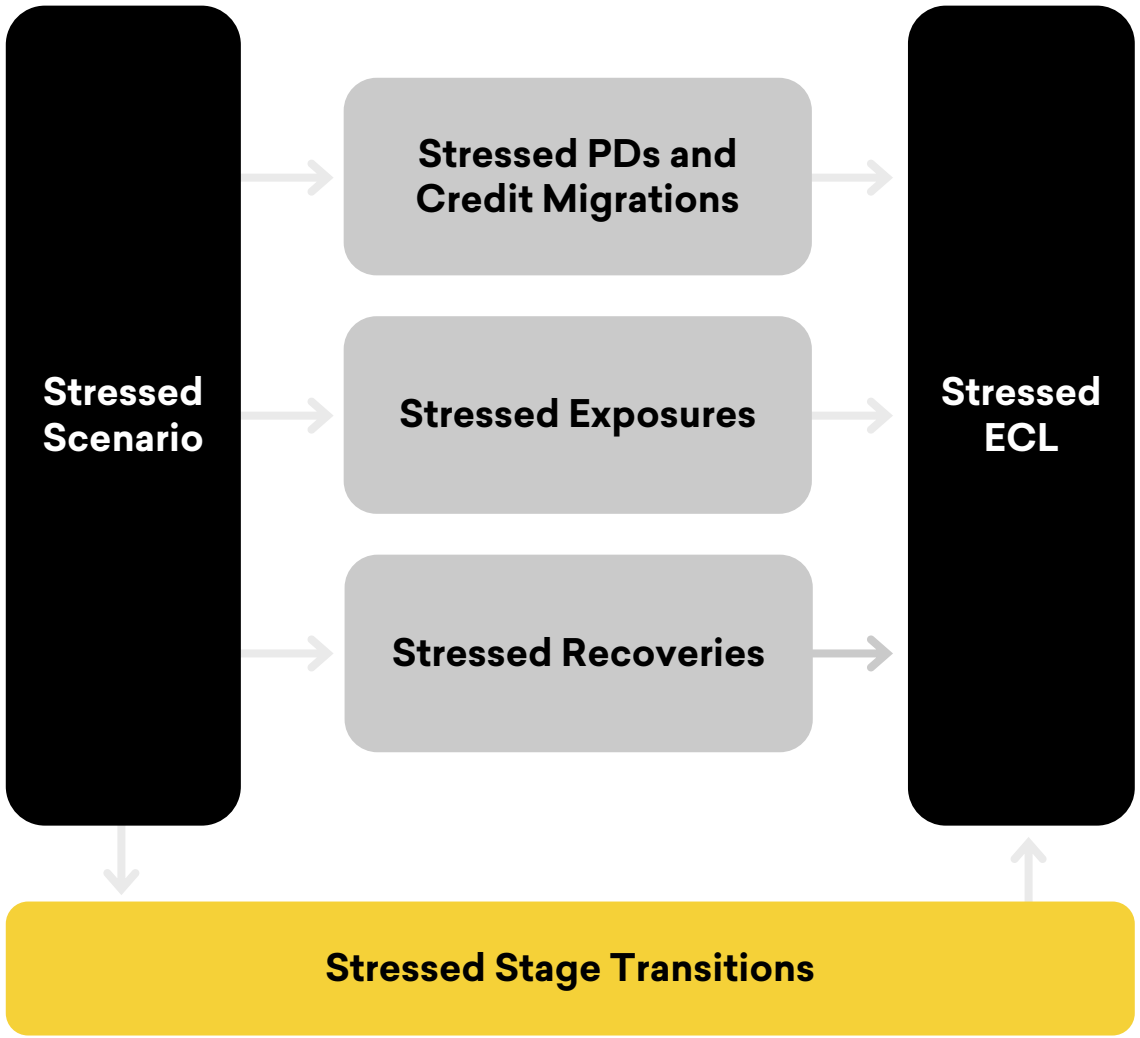
- Determine Exposures evolution and book risk profile through the forecast.
- Compare Lifetime PDs at reporting date with (residual) Origination Lifetime PDs, by expected risk grade.
- Stage allocation and LECLs calculation can be done at account or segment level.
- Segment level approach more reasonable in forecasting.
- Look for trade off between accuracy, process simplification and computational effort.



Approach 2 - Stage Transition Matrix

Measure Stage Transitions directly, by Relevant Segments.

		t+1			
		Stage 1	**Stage 2**	**Stage 3**	**Closure/ Write Off**
t	**Stage 1**	$(1 - PD - PC - P_{12})$	P_{12}	PD	PC
	Stage 2	P_{21} $P\ Cure\ from\ Stage\ 2$	$(1 - PD - PC - P_{21})$	PD	PC
	Stage 3		P_{32} $P\ Cure\ from\ Stage\ 3$	$(1 - PWO - P_{32})$	PWO



Stressed Transitions

Challenge of Estimating Stage 2 transitions under stress

- In a downturn the stock in Stage 2 will increase and attract higher provisions (lifetime ECLs).
- Estimating stressed transitions is challenging, particularly for portfolio with limited history.
- Determine stressed movements adjusting base transition coefficients:
  - ✓ Analysing historical data (if available).
  - ✓ Using proxy series to derive reasonable assumptions.
  - ✓ Leveraging the base-stress PD relationship estimated on Actual IFRS 9 models.

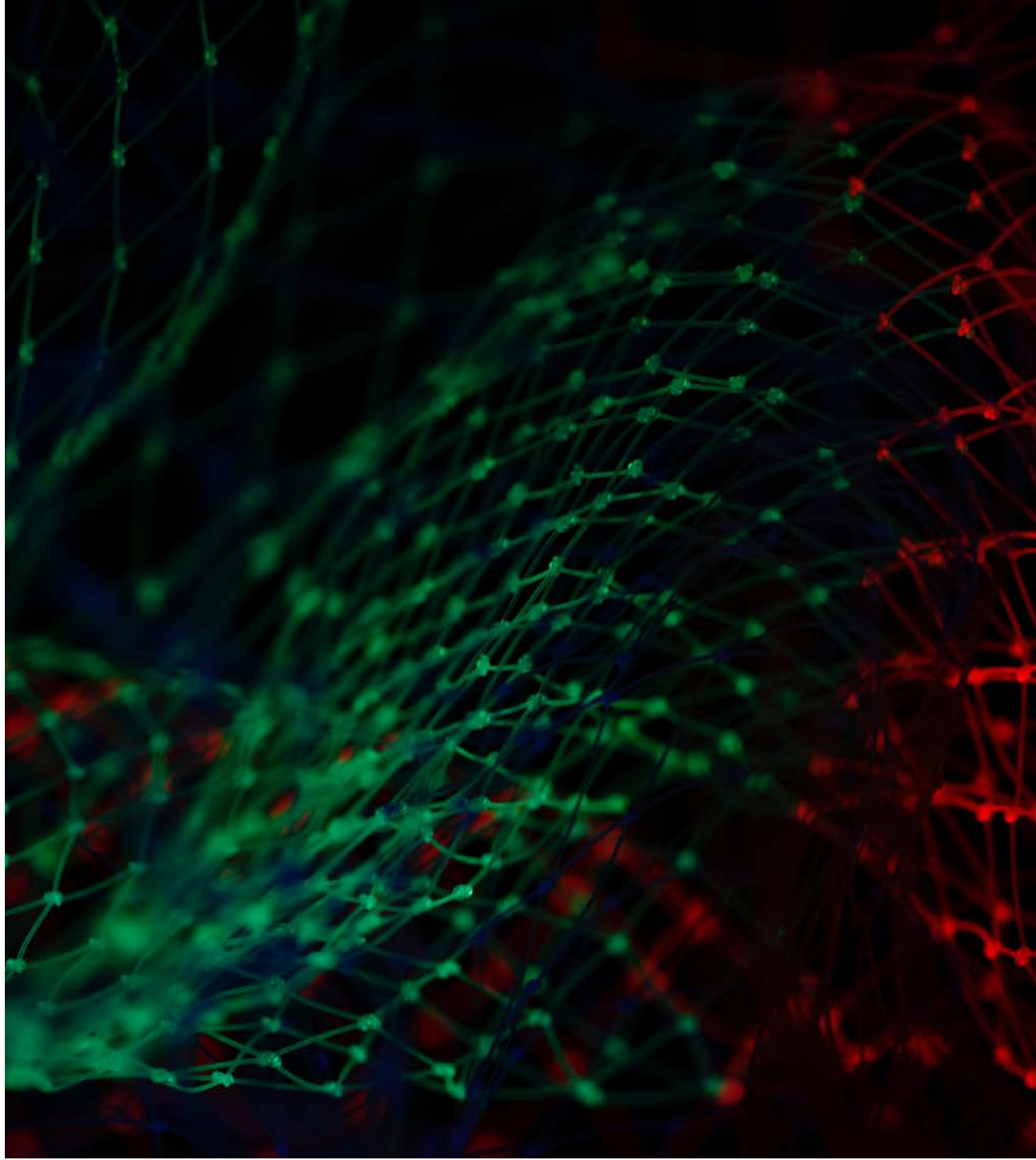
FORWARD LOOKING ECONOMICS

Incorporate Forward Looking Economics

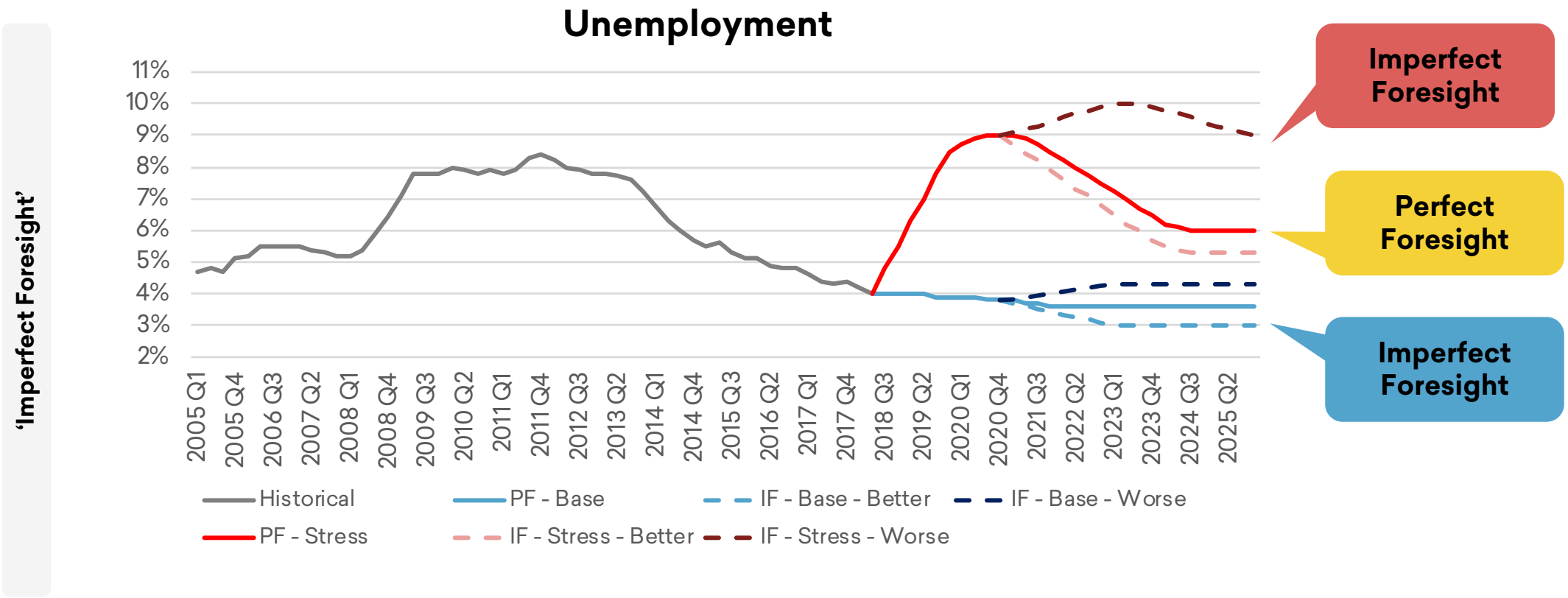
Perfect vs Imperfect foresight

- The IFRS 9 Forward Looking element introduces an additional layer of complexity in forecasting.
- Under IFRS 9 asset movements are assessed not only up to each forecast date, but from that point onwards, for the subsequent 12 months, or longer.
- As a consequence, when building forward looking curves within forecasting, a reassessment of the ‘likely economic view forward’ can potentially be embedded in the predictions.

This aspect is known in the industry as “**perfect (or imperfect) foresight**” of the economy.



Incorporate Forward Looking Economics

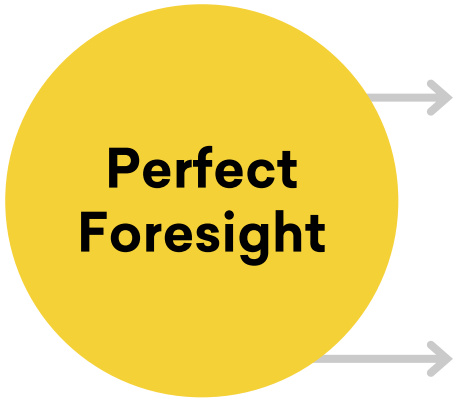


Challenge of simulating economic changes throughout the forecast.

Incorporate Forward Looking Economics

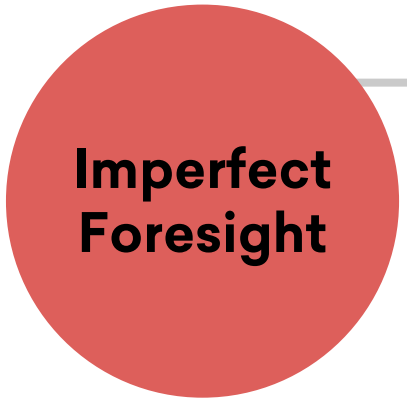
So far the Regulator has given indication to apply '***perfect foresight and a single scenario***' for regulatory stress tests, to preserve comparability of results, but that may change in the future.

Firms use stress testing models for financial planning and they need to tie up the PRAs request of applying perfect foresight with doing something they can actually use to identify changing strategy.



Perfect foresight cause an increase in provisions in early years, followed by a release in later years, even before the recession reaches the peak.

It invalidates or limits management's ability to use IFRS 9 forecasts to develop and test future business plans.



'Imperfect' foresight would present significant implementation challenges, but it would be a more realistic approach, as it would attempt to replicate the 'live' environment at each forecast point.

CONCLUSIONS

CONCLUSIONS

Why IFRS 9 forecasting capabilities should evolve over time

Forecasting stress under IFRS 9 is still work in progress.

Firms should be challenging themselves to improve their approach to incorporate IFRS 9 impairments in their stress testing and forecasting framework, for the following main reasons:

- The way impairment is calculated can have a material capital impact.
- No one has the perfect answer due to the limitations to simulate IFRS 9 over the last recession. Stress testing models and methodologies should be reviewed as additional years of provisions calculated under IFRS 9 become available.
- Regulatory expectations on stress testing models are constantly evolving.

The main open challenge remains to keep this simple enough for transparency and comparability, but sophisticated enough to provide meaningful results.

Thank you

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