

Implementation issues: Model complexity and supervisory capacity

Presenter: Manuel Pérez de Castro



The information and views set out in this presentation are those of the author, and do not necessarily reflect the official opinion of Grupo Santander. Responsibility for this information and views lies entirely with the author

» context

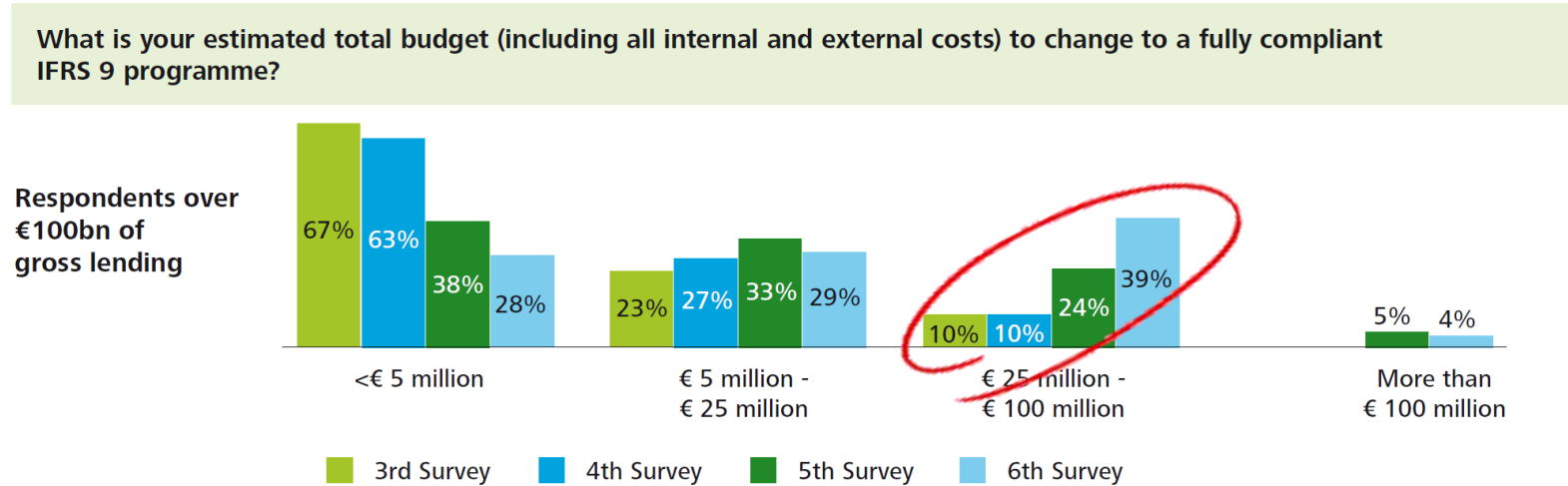
» IFRS9 modelling lifecycle

» the future of IFRS9 modelling?

00

0. Context

IFRS9 programme has involved relevant costs for the industry...



Source: extract from Deloitte's 'Sixth Global IFRS Banking Survey', 2016

...and not only economic costs

More than **245** internal policies and guidelines produced/reviewed



Over **200** people involved in our main geographies

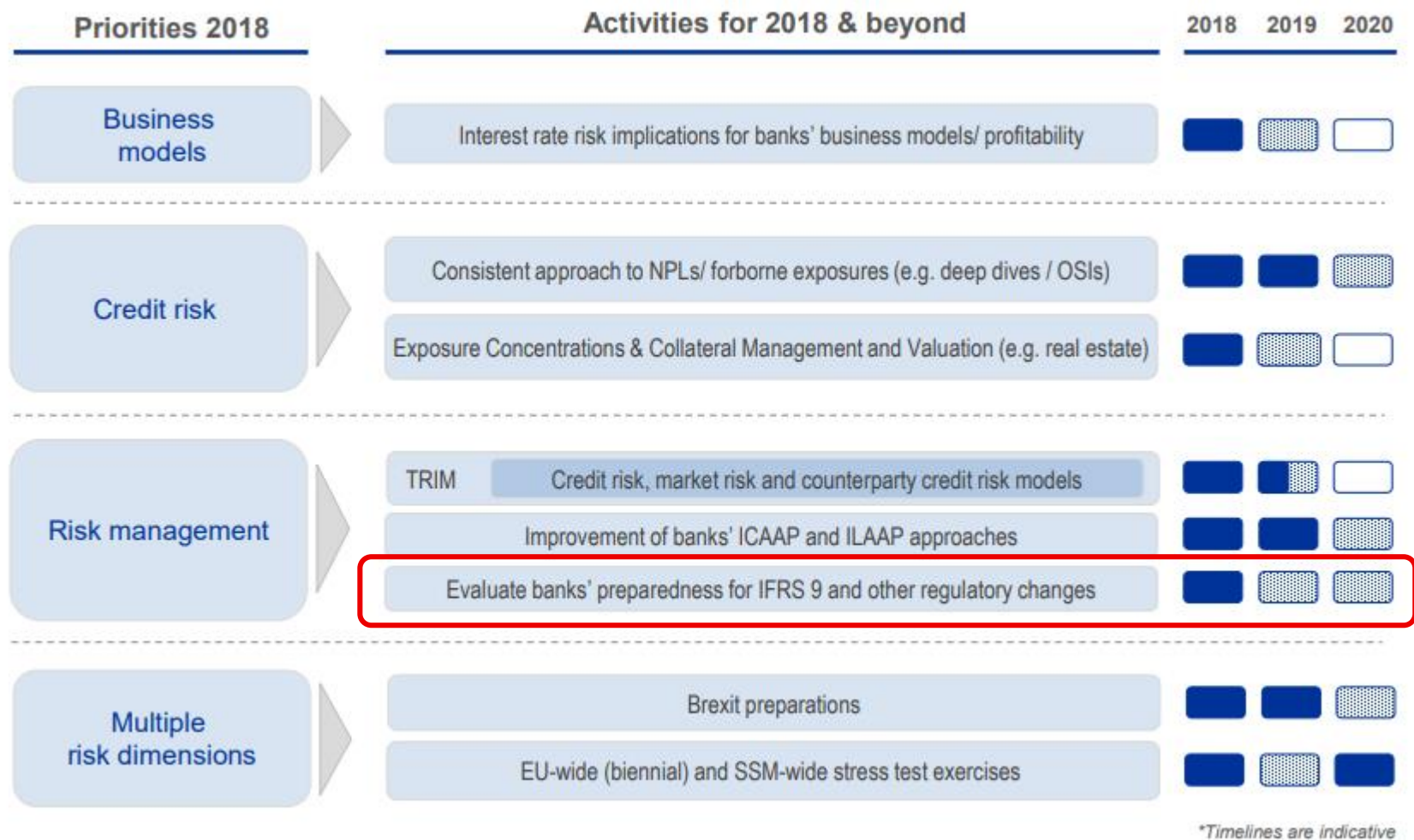


More than **50** Corporate training sessions



0. Context

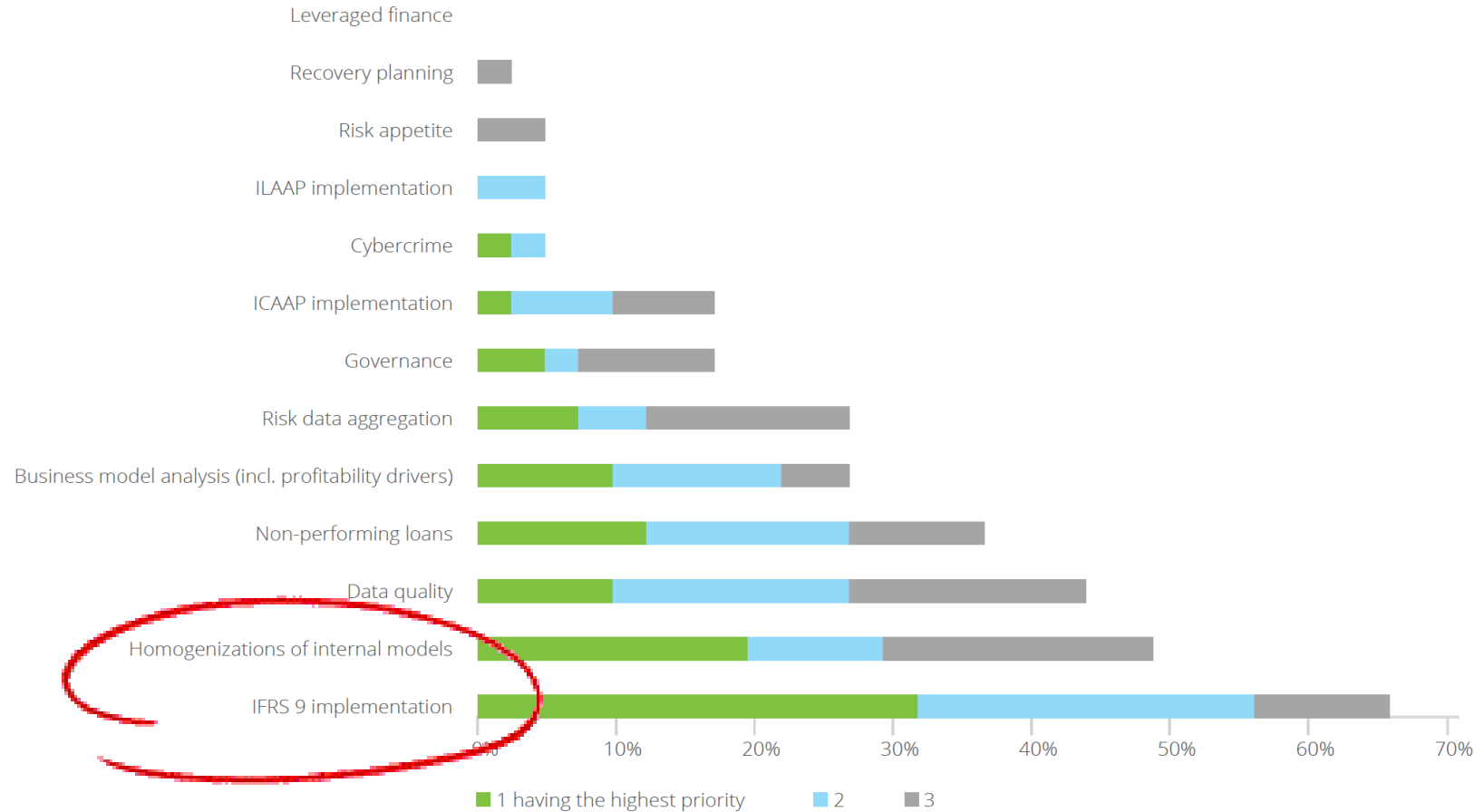
...with strong implication by the SSM...



0. Context

...perceived by the supervised entities

In 2017, for which of the following areas do you expect SSM supervisory activities to be the most challenging for your bank? Rank the top 3 priorities



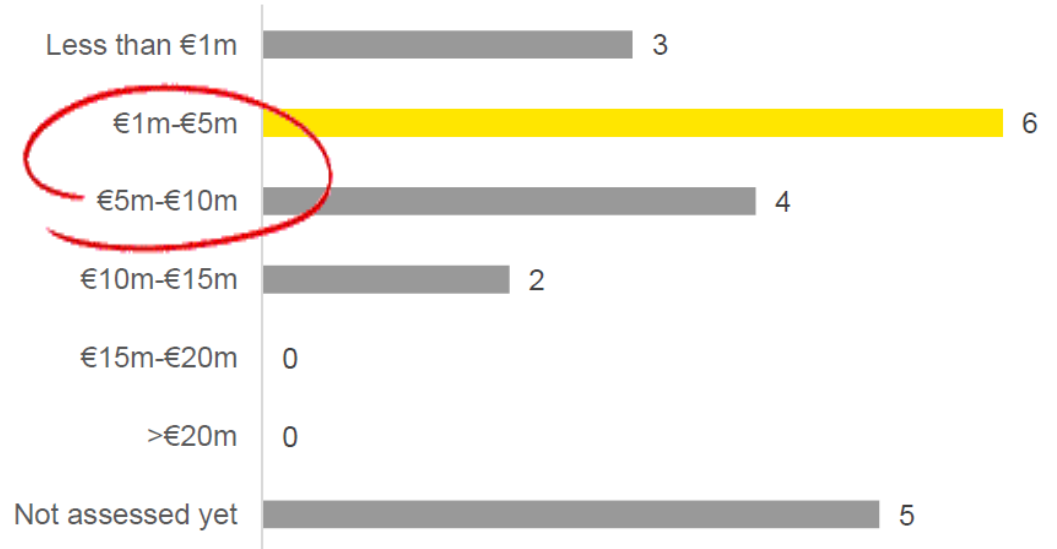
0. Context

What's next in terms of costs?

Areas of budget spend in 2018
(top priority in middle)



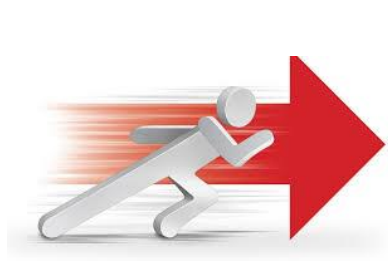
BAU budget per year post IFRS 9 implementation



- » context
- » IFRS9 modelling lifecycle
- » the future of IFRS9 modelling?

01

1. Illustrative IFRS9 modelling lifecycle



*rush to
comply*



*disclosure &
reporting*



*improve/
optimize*



- Principle-based standard: interpretation
- Model development and validation
- Re-use existing techniques (IRB, stress testing, etc.)
- Parallel running
- Impacts

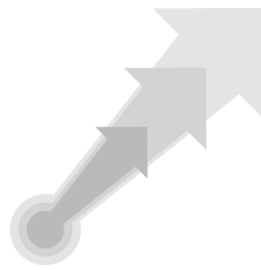
1. Illustrative IFRS9 modelling lifecycle



*rush to
comply*



*disclosure &
reporting*



*improve/
optimize*



- Understanding the outputs >>
- Monitor the evolution
- First peer comparisons
- Putting the governance in practice
- Testing the controls

1. Illustrative IFRS9 modelling lifecycle



*rush to
comply*



*disclosure &
reporting*



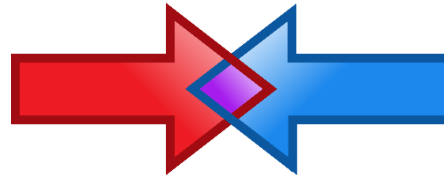
*improve/
optimize*

€€



Model evolution resulting from the tension between...

Institutions willingness
to improve/optimize
adopting best practices



Auditors and
supervisors fostering
best practices

1. Illustrative IFRS9 modelling lifecycle



*rush to
comply*



*disclosure &
reporting*

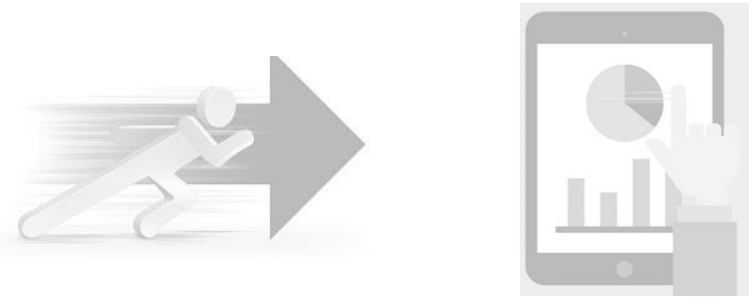


*improve/
optimize*



***what might be
next?***

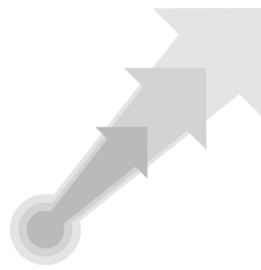
1. Illustrative lifecycle of... a model-based approach



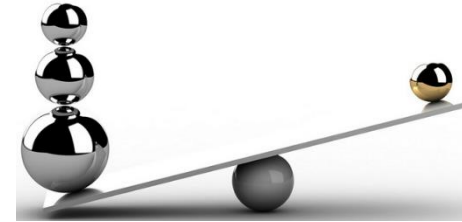
*rush to
comply*



*disclosure &
reporting*



*improve/
optimize*



*backtest/
benchmark*



restrictions

BANCO DE ESPAÑA
Espania

Consistencia de los activos ponderados por riesgo¹

Introducción

En estos últimos años de aplicación de la normativa de solvencia demandada por Basilea II, existe una preocupación creciente entre entidades y supervisores por avanzar en la consistencia entre entidades y países en el cálculo de los activos ponderados por riesgo (con frecuencia citados por sus siglas en inglés, RWA). La importancia de esta cuestión reside en que, como es sabido, los RWA son el denominador de los ratios de capital que se han establecido en la regulación de solvencia, y son por tanto la «vara de medir» para decidir la suficiencia de los recursos propios computables de las entidades. En consecuencia, si existiera diferencias no justificadas en el cálculo de los RWA, se producirían distorsiones en la medición de la solvencia, que han en menoscabo del nivel playing field y de la competitividad de las entidades.

Con objeto de analizar la consistencia de los activos ponderados por riesgo en el contexto de la normativa de solvencia, se ha venido elaborando por parte de ciertos actores «círculos interaccionales y analíticos, principalmente – la llamada ratio de «densidad de los RWA», que compara los activos ponderados regulatorios totales con el balance total de las entidades, y que puede interpretarse como una medida del riesgo relativo medio – según criterios regulatorios – del conjunto de operaciones de una entidad. La resolución de diferencias notables en el valor de esta ratio entre entidades y países, especialmente entre las entidades que aplican métodos basados en modelos internos, ha llevado a algunos a concluir que el cálculo de los RWA no se efectúa de forma consistente, y que deben de existir diferencias importantes, e injustificadas, en los metodologías de cálculo de las entidades y en los criterios de los supervisores.

Frente a estas críticas, conviene tener presente, en primer lugar, que hay buenas razones por las que la densidad de los RWA debería ser distinta entre entidades. No se puede olvidar que los RWA regulatorios no son un riesgo de solvencia que pretenda ser sensible al riesgo, y que las entidades tienen distintas «perfiles de riesgo», manifestados en diversos aspectos: el peso relativo de sus diferentes categorías, la calidad de los activos que componen cada categoría, las áreas geográficas en que operan, los tipos de negocios que afectan Banca comercial, Banca de inversión, «asesoramiento», etc. Asimismo entidades conexas en actividades conexas de bajo riesgo o cuyas inversiones tengan una mayor calidad deberían mostrar ratios más bajas.

Por otra parte, hay que señalar que la ratio de densidad de los RWA no es una buena medida del riesgo asumido por las entidades por unidad de exposición, por varios motivos:

- Su numerador – los RWA – es el resultado de ponderar exposiciones en función exclusivamente de su riesgo de pérdida inesperado, no tiene en cuenta el riesgo de sufrir pérdidas esperadas.
- El denominador – el activo total – no recoge todas las operaciones que dan lugar a activos ponderados por riesgo, incluyendo, por ejemplo, las garantías concedidas, los depósitos en cuentas de crédito, las posiciones como en instrumentos financieros, los derivados financieros... Por ello, la ratio resulta inconsistente por definición.


1 Informe de la Supervisión Bancaria de España, 2012, Capítulo 1.4, página 97, 98 y 99.

**Basel Committee
on Banking Supervision**

**Regulatory Consistency
Assessment Programme
(RCAP)**

**Analysis of risk-weighted
assets for credit risk in
the banking book**

July 2013



EBA EUROPEAN BANKING AUTHORITY

17 December 2013

**Summary report on the comparability
and pro-cyclicality of capital
requirements under the Internal Ratings
Based Approach in accordance with
Article 502 of the Capital Requirements
Regulation**

Covering:

1. First interim report on the consistency of risk-weighted assets – low default portfolios
2. Second interim report on the consistency of risk-weighted assets – low default portfolios
3. Third interim report on the consistency of risk-weighted assets – low default portfolios
4. Report on the comparability of supervisory rules and practices
5. Report on the pro-cyclicality of capital requirements under the Internal Ratings Based Approach

**Comparability of Basel risk weights in the
EU banking sector**

Sophia Dime,
Stefan Kartl¹

Refered by:
Markus Behn,
European Central Bank

Our aim is to quantify the variability across EU countries evident in the risk weights (RW) applied by banks to their exposures. To this end, we use a publicly available panel dataset which provides granular portfolio-by-portfolio data for major EU banks and covers six periods between 2013 and 2016. In line with the Basel regulatory capital framework, RW should adequately mirror the risk of the obligations. One meaningful indicator of the underlying risk is the share of nonperforming loans (NPL) in a given portfolio. We show that a good portion of RW variability can be explained by portfolio- and destination-specific risk indicators such as macroeconomic indicators and NPL ratios. In our analysis, we find that it is not statistically significant that large banks are better able to push down RW (after controlling for underlying credit risk). It is of marginal statistical significance that banks with low common equity tier 1 (CET1) ratios employ RW that are lower than would be expected from the underlying credit risk. We observe, however, statistically significant and economically important differences with regard to the country where a bank is headquartered. The paper also finds evidence that implementation standards differ from jurisdiction to jurisdiction, thus motivating incentives by the EBA and the ECB to strengthen harmonization.

JEL classification: G21, G28, E41, G18
Keywords: bank capital, regulation, risk weights, Basel regulatory capital frameworks

The prime rationale for Basel II was to strengthen the regulatory capital framework by ensuring that banks' capital allocation is more risk sensitive. Basel II hence permitted banks to use internal risk models to quantify their capital requirements for credit risk (the so-called internal ratings-based (IRB) approach) instead of the risk weight table under Basel I. Banks had already begun to employ such risk models in their own management and were now allowed, upon supervisory approval, to use them to calculate their capital requirements. As an alternative, Basel II allowed banks to employ a simpler standardized approach for calculating the risk inherent in their exposures.

The objective of model-based capital requirements was to obtain higher risk sensitivity and thus increase the efficiency of credit allocation. However, this objective had to be weighed against banks' incentives to use "artificially low" internal estimates. Naturally, supervisors have to prevent the latter from happening. Another concern was whether differences in banks' and supervisory standards regarding the implementation of models would make the outcomes comparable across jurisdictions.

Several studies examining whether supervisors were able to prevent banks from embellishing capital ratios found concerning discrepancies in risk weights across banks and jurisdictions.² Therefore, international bodies like the Basel Committee on Banking Supervision (BCBS) and the European Banking Authority (EBA) responded by strengthening their focus on the topic. A number of studies also showed that many banks that rely on internal models for calculating regulatory capital overstate their

¹ German Bank Supervision, Financial Stability and Macroeconomic Supervision Division, study developed in a joint effort with EBA. The views expressed in this paper are exclusively those of the authors and do not necessarily reflect those of the ECB or the European Union. The authors would like to thank Marko Behn (ECB) for helpful comments and valuable suggestions.

² For example, Behn et al. (2010) provide an overview of the literature on risk weight heterogeneity, and the BCBS (2012) summarizes the BCBS risk weight studies.

1. Illustrative lifecycle of... a model-based approach



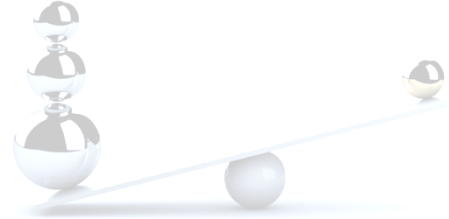
*rush to
comply*



*disclosure &
reporting*



*improve/
optimize*



*backtest/
benchmark*



restrictions

Examples from upcoming capital rules...

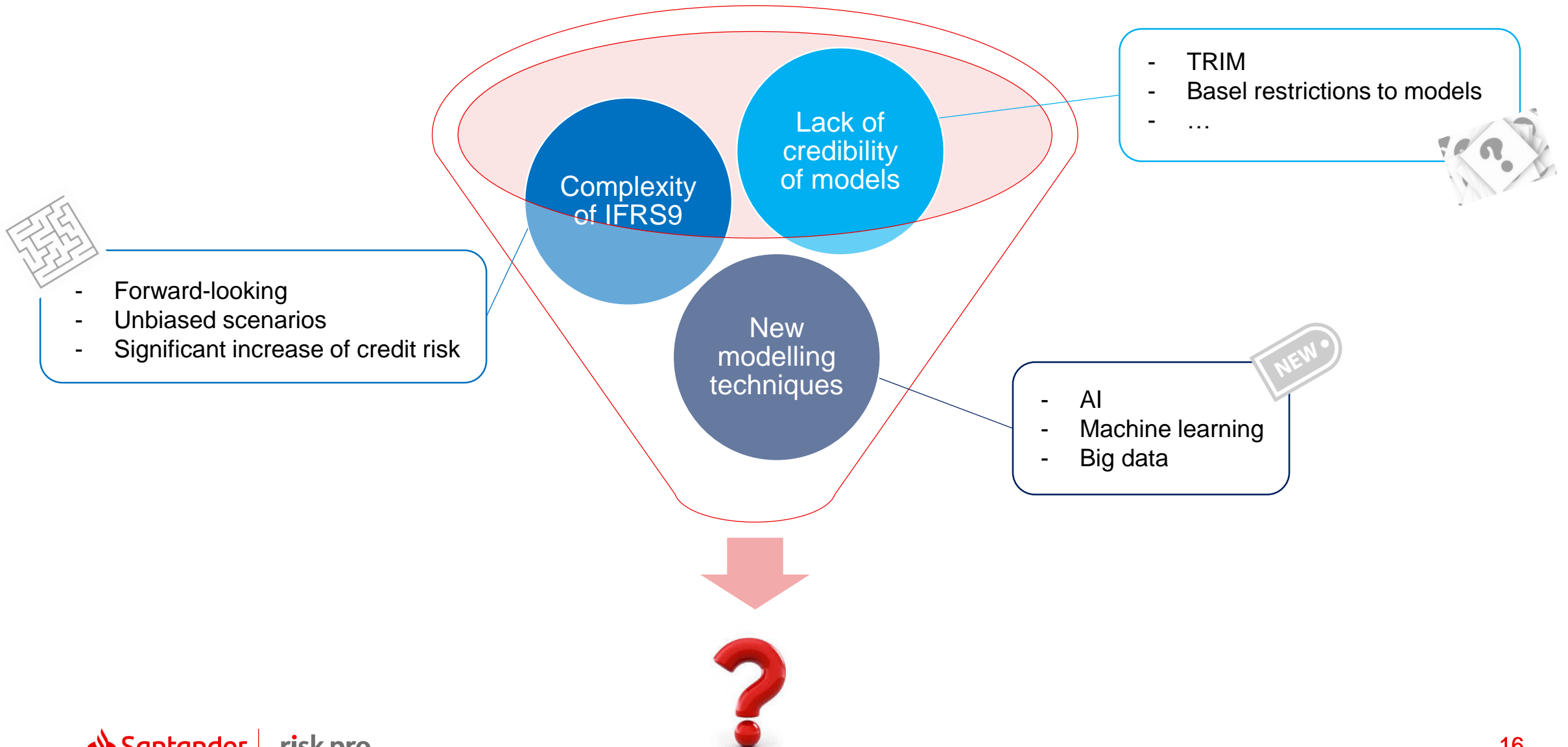
- Additional input (parameters) floors
- Output floors
- Non-modelable portfolios
- Less risk sensitive ratios (leverage)

- » context
- » IFRS9 modelling lifecycle
- » the future of IFRS9 modelling?

02

2. The future of IFRS9 modelling?

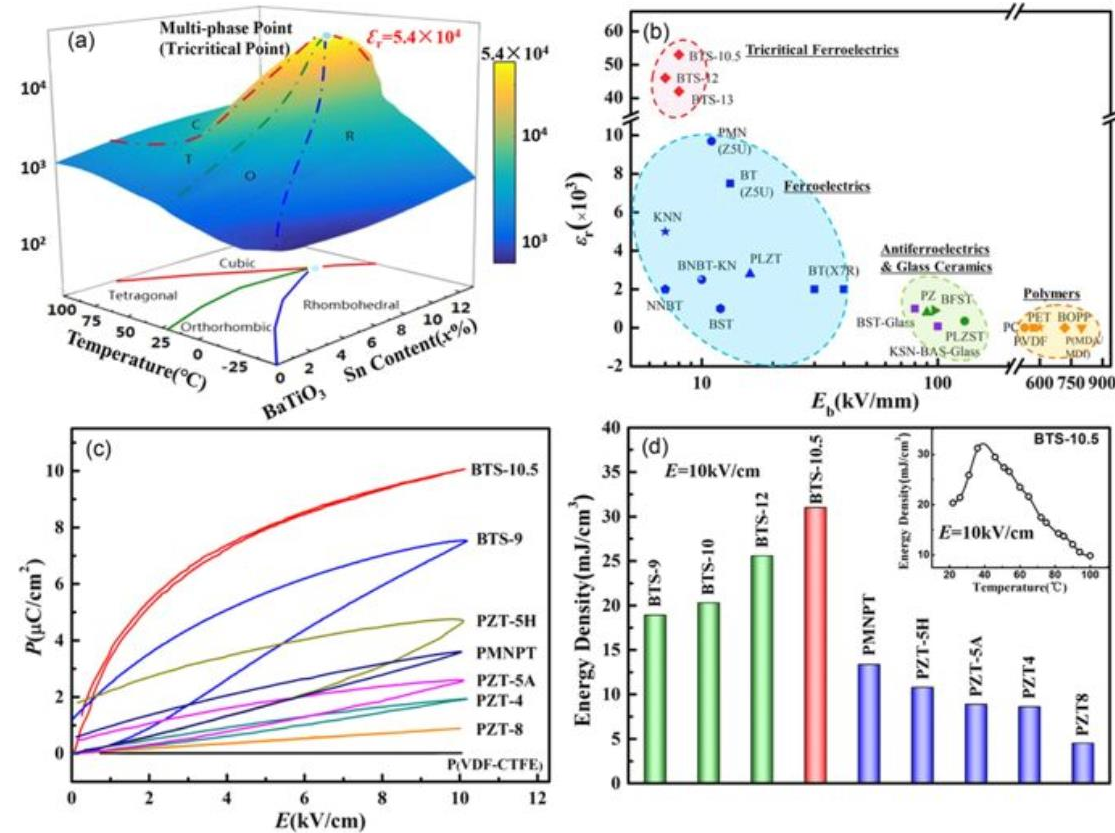
A challenging landscape for modelling



2. The future of IFRS9 modelling?

A message of hope

Figure 1



(a) The dielectric permittivity (ϵ_r) distribution on the phase diagram of $\text{Ba}(\text{Ti}_{1-x}\text{Sn}_x)\text{O}_3$ (BTS), and the maximum value can reach to 5.4×10^4 at the multi-phase point which is also a tricritical point. (b) The locations for a series of materials categories on the dielectric

Thank You.

Our purpose is to help people
and business prosper.

Our culture is based on believing
that everything we do should be:

Simple Personal Fair



MEMBER OF
**Dow Jones
Sustainability Indices**
In Collaboration with RobecoSAM



FTSE4Good

» appendix

AP

Are we ready for IFRS9 disclosure?

ABC Bank disclosure:



Month	Stage 1	Stage 2	Stage 3
January <i>Coverage Ratio</i>	1%	6%	40%
	Nothing changes in ABC bank but the quality of the assets		
	-No model update -No scenario update -No criteria update -No new assets		
Month	Stage 1	Stage 2	Stage 3
February <i>Coverage Ratio</i>	1.53%	7%	40%
Decreasing credit quality?			

Are we ready for IFRS9 disclosure?

What really happens...

Month	Stage 1	Stage 2	Stage 3
January Assets Detail	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; width: 150px;"> Asset 1 1,000,000 €Bn EL: 1.2% </div> <div style="border: 1px solid black; padding: 5px; width: 150px;"> Asset 2 1,000,000 €Bn EL: 0.8% </div> </div>	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; width: 150px;"> Asset 3 1,000,000 €Bn EL: 4% </div> <div style="border: 1px solid black; padding: 5px; width: 150px;"> Asset 4 1,000,000 €Bn EL: 7% </div> </div> <div style="border: 1px solid black; padding: 5px; width: 150px; margin: 10px auto;"> Asset 5 1,000,000 €Bn EL: 7% </div>	<div style="border: 1px solid black; padding: 5px; width: 150px; margin: 0 auto;"> Asset 6 1,000,000 €Bn EL: 40% </div>

Month	Stage 1	Stage 2	Stage 3
February Assets Detail	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; width: 150px;"> Asset 1 1,000,000 €Bn EL: 1.2% </div> <div style="border: 1px solid black; padding: 5px; width: 150px;"> Asset 2 1,000,000 €Bn EL: 0.8% </div> </div> <div style="border: 1px solid black; padding: 5px; width: 150px; margin: 10px auto;"> Asset 3 1,000,000 €Bn EL: 2.6% </div>	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; width: 150px;"> Asset 4 1,000,000 €Bn EL: 7% </div> <div style="border: 1px solid black; padding: 5px; width: 150px;"> Asset 5 1,000,000 €Bn EL: 7% </div> </div>	<div style="border: 1px solid black; padding: 5px; width: 150px; margin: 0 auto;"> Asset 6 1,000,000 €Bn EL: 40% </div>

Increasing credit quality!

