



# Grant Thornton

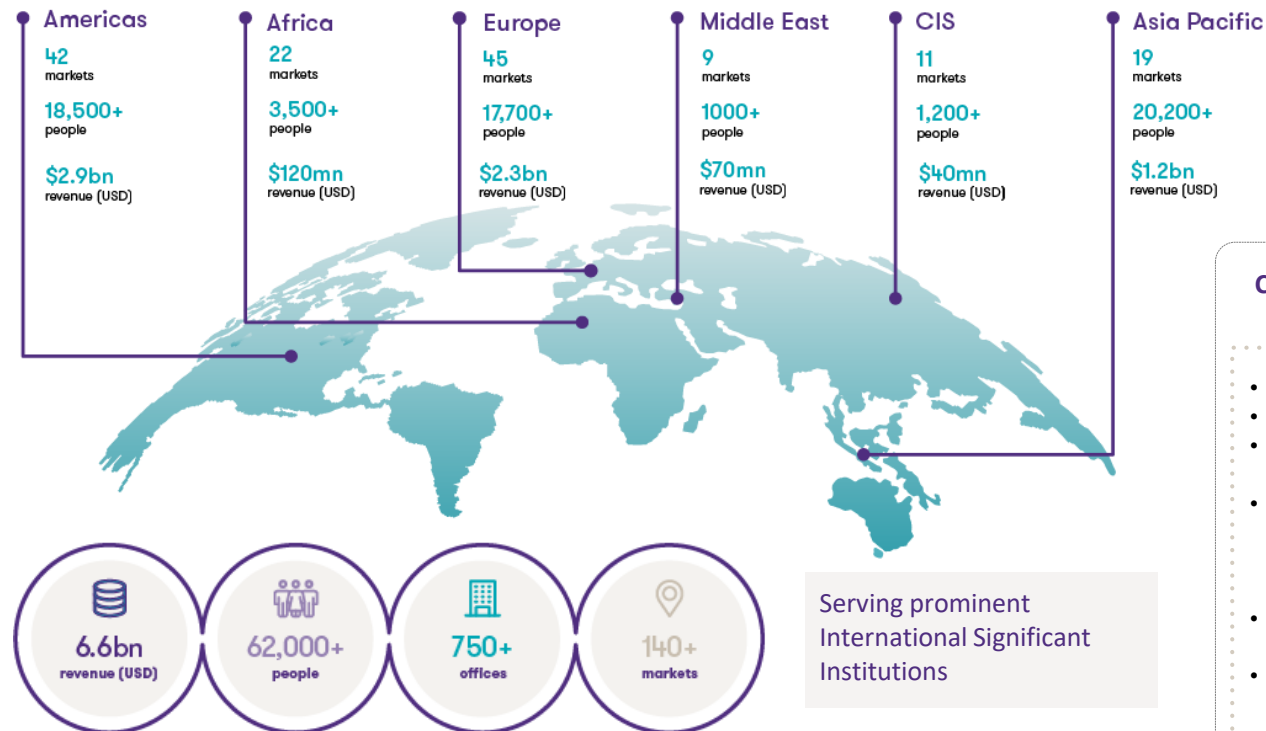
## Risk Advisory Services

14<sup>th</sup> February 2024

# About Grant Thornton

## Global Expertise, Local Knowledge

Grant Thornton Spain is the member firm of Grant Thornton International Ltd (GTIL). GTIL is an international umbrella entity composed of independent member firms in more than 750 offices across 140+ countries, represented by 62,000+ personnel throughout the world.



Grant Thornton member firms use the **same methodologies and innovative technology platforms and share a common commitment** to personalised, seamless client service.

### Compared to the Big Four firms

- More nimble and responsive
- High-touch service delivery
- Active involvement from leadership
- Direct, easy access to subject matter specialists and robust national office resources when needed
- Quick, transparent issue resolution
- Right-sized solutions tailored to your needs



### Grant Thornton is perfect balance

- We have the resources, and the skill sets of the larger firms with the accessibility and agility of a smaller firm

### Compared to Smaller firms

- Better depth of technical and industry resources
- Member firms in 140+ countries
- Supported locally by regional and national specialists
- Global transparency thinking technology and tools
- Value-added thought leadership and insight
- Cohesive member firm structure

**93%**  
of the Forbes 100 are clients of Grant Thornton member firms

Our **clients** include some of the world's leading Financial institutions, including the **Forbes 100** and smaller emerging disruptors.

# Grant Thornton – Risk Advisory

## Engagement Partners



Daniel Fernández Domínguez



Dwayne Price

Daniel has vast experience in FSA and long track of successful projects in banking, insurance and technology change. Throughout his career, he has supported clients across the globe.

Dwayne held a senior role in the Central Bank of Ireland as Head of Banking Supervision. His advisory experience ranges across sectors and regulatory regimes.

## Engagement Directors



Alejandro González Salcedo



Lukas Majer

Alejandro is experienced professional who delivered projects in financial industry and insurance sector focusing on risk management along 3 Lines of Defence, risk & compliance functions transformation and regulatory support.

Lukas background is in bank industry and has vast experience in bank risk management, model build and validation focusing mainly on IRB, IFRS9, Stress Testing, ESG and risk based pricing.

## Global Quantitative Risk Team



Our team consist or more then 100 quant risk professionals across Europe, America and Middle East

The team consist of Masters and PHDs, FRMs professionals with degrees in Econometrics, Finance Statistics and Mathematics

We have access to hundreds of professionals across wide range of services and products

# Risk Advisory “Core” Services

Risk Advisory is not only our profession, it is also our passion. This is one of the key reasons we can deliver best in class products and services, informed by unique regulatory, academic and industry professional insights.

## Quantitative Risk

### Prudential / Regulatory Risk

### Credit, Market, Op, Pillar II

### Climate & Environmental Risk

### Actuarial Risk

## Business Risk Services

### Assurance transformation

### Digital Finance

### Impact new businesses

### Regulatory reporting

## Team Skills

- Regulatory, Industry & Academic Knowledge
- Advance Data Analytics & Remediation
- Methodology [Regression, ML, AI]
- Coding [R, Python, SAS, SQL, VBA, C++]
- Consulting / Presentation

## Clients

*Global Significant Banking Institutions*

*European Central Bank*

*Single Resolution Board*

*Tier II Banks Globally*

*Investment Funds, MIFID Firms*



Paseo de la Castellana 81 28046 MADRID



# Grant Thornton Quantitative Risk

## Our “Core” Services and Recent Credentials

We provide strategic advisory as well as end to end delivery services across all lines on defense. The core of our services fall under the quantitative risk area covering Data Analytics, Credit and Market Risk quantification and management, Stress Testing and Forecasting, Climate & Environmental Risk and IT and Digital Assets Risk . We work with large international financial institutions and our team is one of the top providers for ECB On-Site Inspection missions.

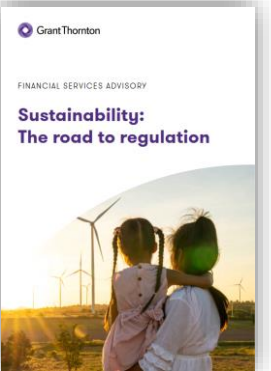
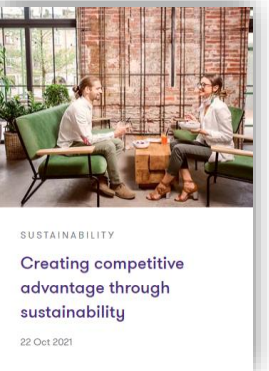
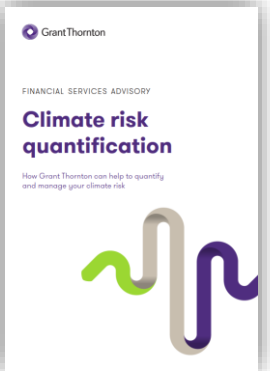
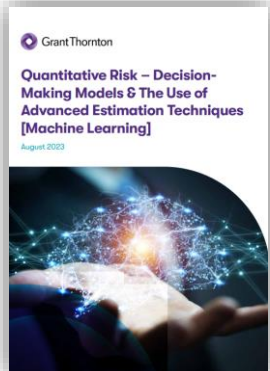
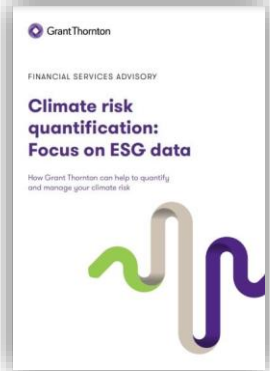
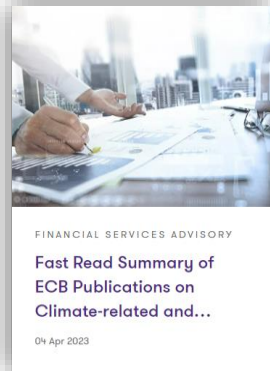
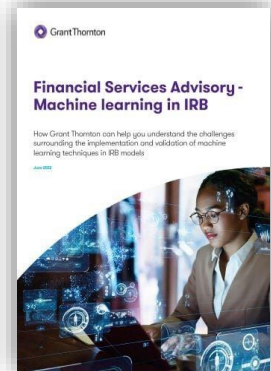
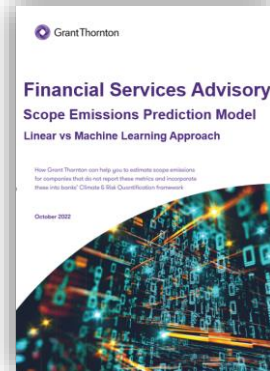
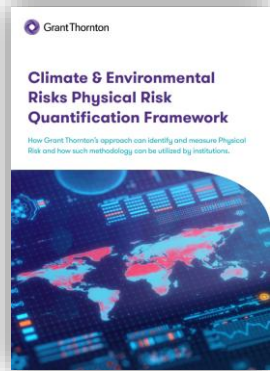


# Industry Thought Leadership – GT Research Hub

## Sustainability and Quantitative Risk Expertise

Grant Thornton has published extensively on key sustainability and risk topics, specifically on its impact on the financial sector and the wider regulatory trajectory. Our deep understanding of the topic, underpinned by a global network of specialists, and our banking sector experience makes us uniquely positioned to help our client understand challenges and opportunities it presents.

*In our publications we focus on key industry trends and best practices. Our goal is to contribute to general industry knowledge while providing high value for our clients*



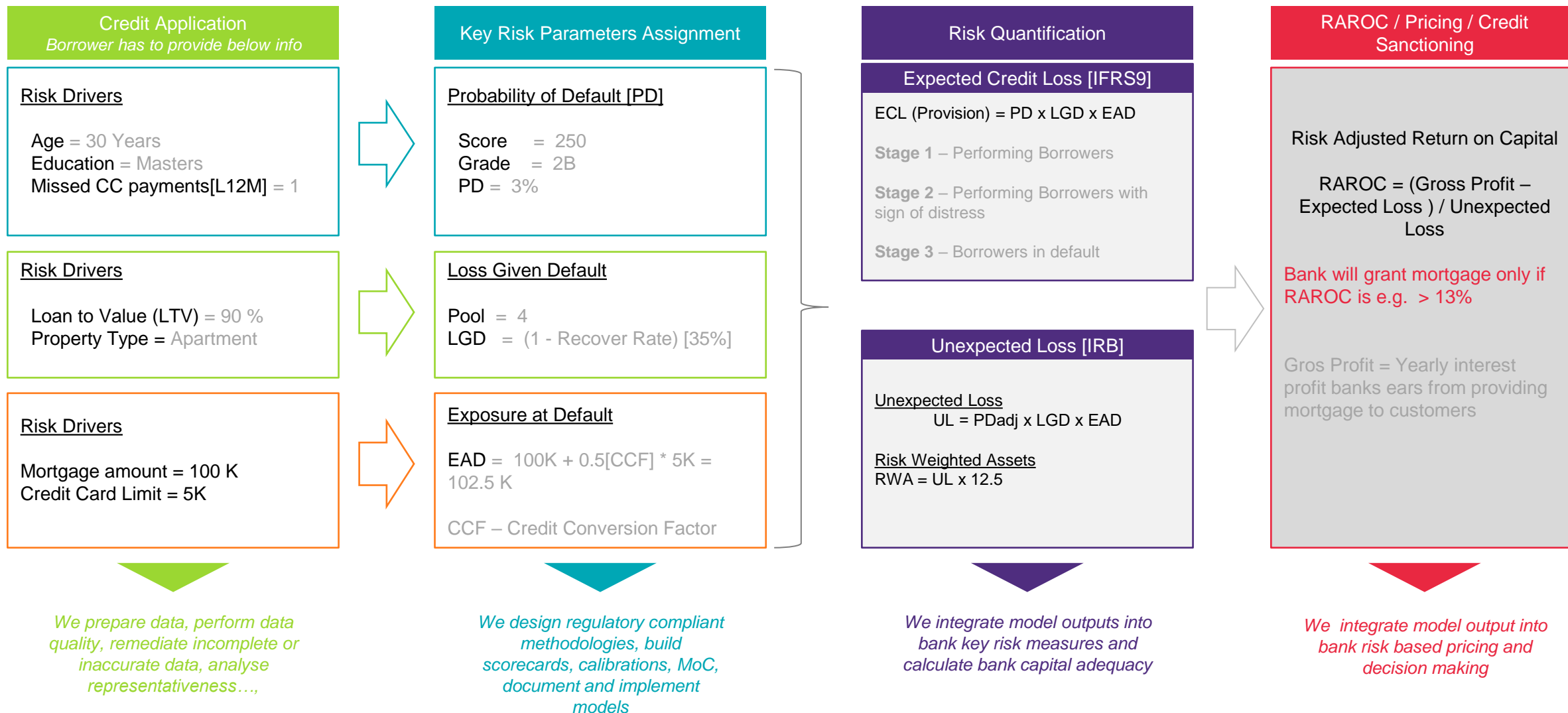


# Why is Quant Risk My Passion

How is Our Work Shaping Bank Industry and Affecting  
Entities Access to Finance

# How is Quant Risk Affecting the Borrower

Below schema displays estimation of individual borrower risk and its effect on interest rate and fact if bank will or will not grant a loan.



# How is Quant Risk shaping bank portfolio

Below schema displays estimation of portfolio credit risk and its effect on bank Capital Adequacy.

## IRB Risk Measures

Loss that will happen 1 in 5000 years

$$UL = \sum_i^n EAD \times LGD \times N\left(\frac{R}{1-R} - \frac{G(PD)}{1-R}\right) + \left(\frac{R}{1-R}\right)^{-0.5} \times G(0,999) - PD \times LGD \times (1 - 1,5 \times b(PD))^{-1} \times (1 + (M - 2,5) \times b(PD))$$

$$RWA = \sum_i^n UL * 12.5$$

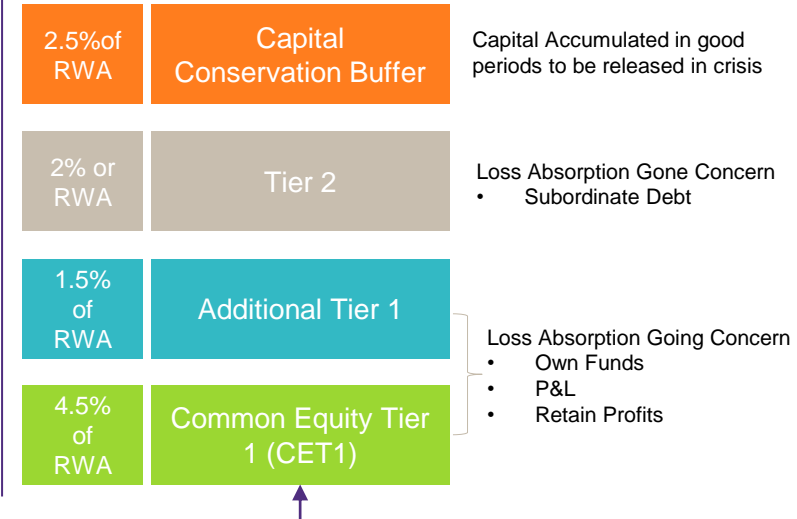
## IFRS 9 Risk Measures

Expected Loss for Next Year / for the life of borrower loan

$$ECL = \sum_i^n EAD \times LGD \times [Stage 1,2,3 PD]$$

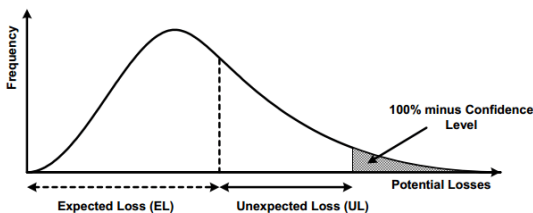
ECL gets to P&L as a cost reduction impacting the profit downwards

## Internal Capital



$$Capital Adequacy = Internal Capital / RWA$$

$$Capital Adequacy > 8\% \text{ (Cooke Ratio - Basel I)}$$





# Key trends / milestones for the Financial Industry 2024

We are where a challenge is needed in the Financial Industry.

The demand for **risk services** is growing mainly due to two drivers:

- (i) concept of *permacrisis* – continued period of instability and insecurity
- (ii) pressure and regulatory adaptation

## Mature Risk Areas

### Risk management

- **Credit Risk – Pressure on the IRB / IFRS9 models** vs complexity and high build and maintenance costs of these models. Rising interest, Dealing with **increased risk of defaults**.
- **Model Risk Management** – Banks needs to demonstrate to supervisors that **model risk is being managed across all stages of the model lifecycle**.
- **Market risk / IRRBB** – Banks are implementing EBA Guidelines on the prospective risk to the bank's capital and earnings arising from **adverse movements in interest rates** that affect the bank's banking book positions.
- **Financial Crime (AML) – annual risk assessment**, as well as policies, procedures and controls designed to mitigate any identified or potential risks (Customer Risk Assessment, Transaction monitoring, ...).
- **Fraud Risk management – impact in reputational and financial risk**.

### Regulations

- **Regulatory expectations – ECB is increasing level of regulatory expectations** on internal models and good management processes + **EBA findings in IFRS9 implementation**.
- **Outsourcing and critical 3<sup>rd</sup> parties – DORA** (Digital Operations Resilience Act) establishes a comprehensive risk management framework associated with the increase in **digitization** of the financial sector.
- **Basel IV** provides changes the approaches for the **calculation of RWA**, regardless of both the risk-type and the use of a STD approach / internal models.
- **Banks using digital payments** – Banks providing payment services continue to face challenges in adopting and complying with complex regulatory requirements (**ISO20022, Payment Services Directive 2 – PSD 2**) requirements.

## Emerging Risk Areas

### Digital Assets

- **Managing Cybersecurity risks** (blockchain technology) can invite to evade capital.
- **Regulatory uncertainty** can lead to financial and market instability – Difficult to establish strategies. MiCA implementation.
- **External providers** need to be well managed to avoid gaps. **DORA** impact assessment.

### ESG Agenda

- **ESG agenda**. The challenge is multidimensional and demanding for both strategy as well integration of the C&E risks in banks processes and systems. ESG disclosures is being implemented such as CSRD (ESRS), EU Taxonomy. Double materiality assessment, ....

### Stress Test

- **EBA 2024 priority on reviewing stress testing framework** with the focus on increased efficiency of the exercise.
- **Climate Stress Test v 2.0** factoring the lessons learned and best industry practices observed in pilot exercise in 2022.

### Machine Learning & AI

- Despite certain **progress in the regulatory thinking**, concerns around use of **ML techniques** in regulatory models persists.
- **Machine learning models** are more **challenging to build and interpret** which is why they should be build in smart way.

# Key training priorities in the Financial Industry

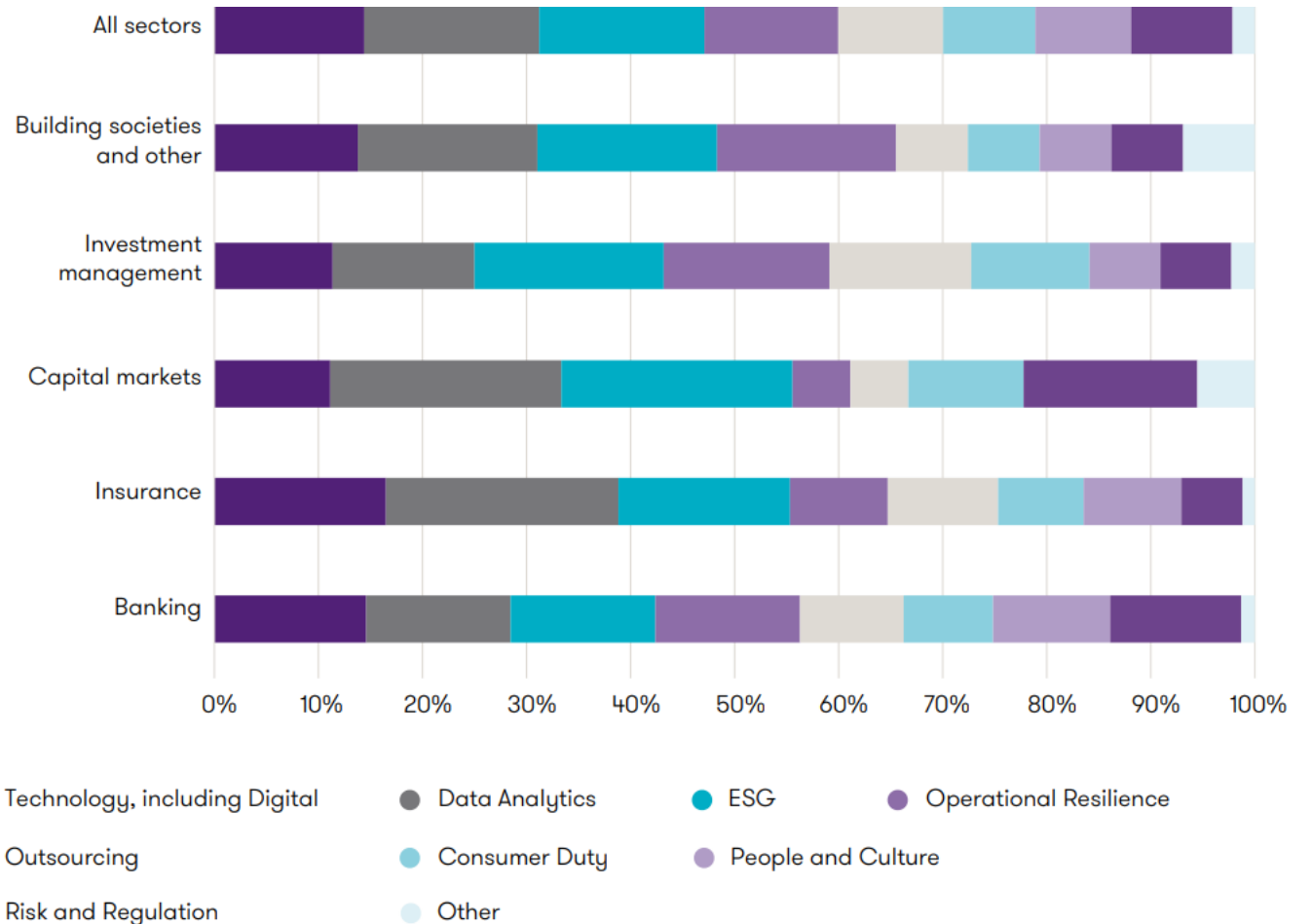
## Grant Thornton's view

People in the industry are requested with skills which balance business and technical knowledge, and they have to be able to respond with an appropriate and challenging approach.

## Skills GAP

**What are your key focus areas over the next 12 – 24 months for your training and development plan?**

- Banks were fairly evenly split in terms of **training investment**, with the exception of outsourcing and consumer duty which ranked last. This is expected given these are **emerging regulations** still being implemented by the business.
- Change assurance, **blockchain and cryptocurrency and financial crime** are other focus areas, in addition to softer skills around **business and leadership**.
- Over **70%** of respondents said **data analytics and ESG** were areas they were focused on.
- **64%** said that **technology**, including **digital** was a focus area.
- **People and Culture and Consumer Duty** were the focus areas that featured the least, with only around **40%** of respondents mentioning them.



Source: Grant Thornton survey 2023 to Internal Audit functions based on +100 responses



# Experience with ECB



# ECB OSI Mission

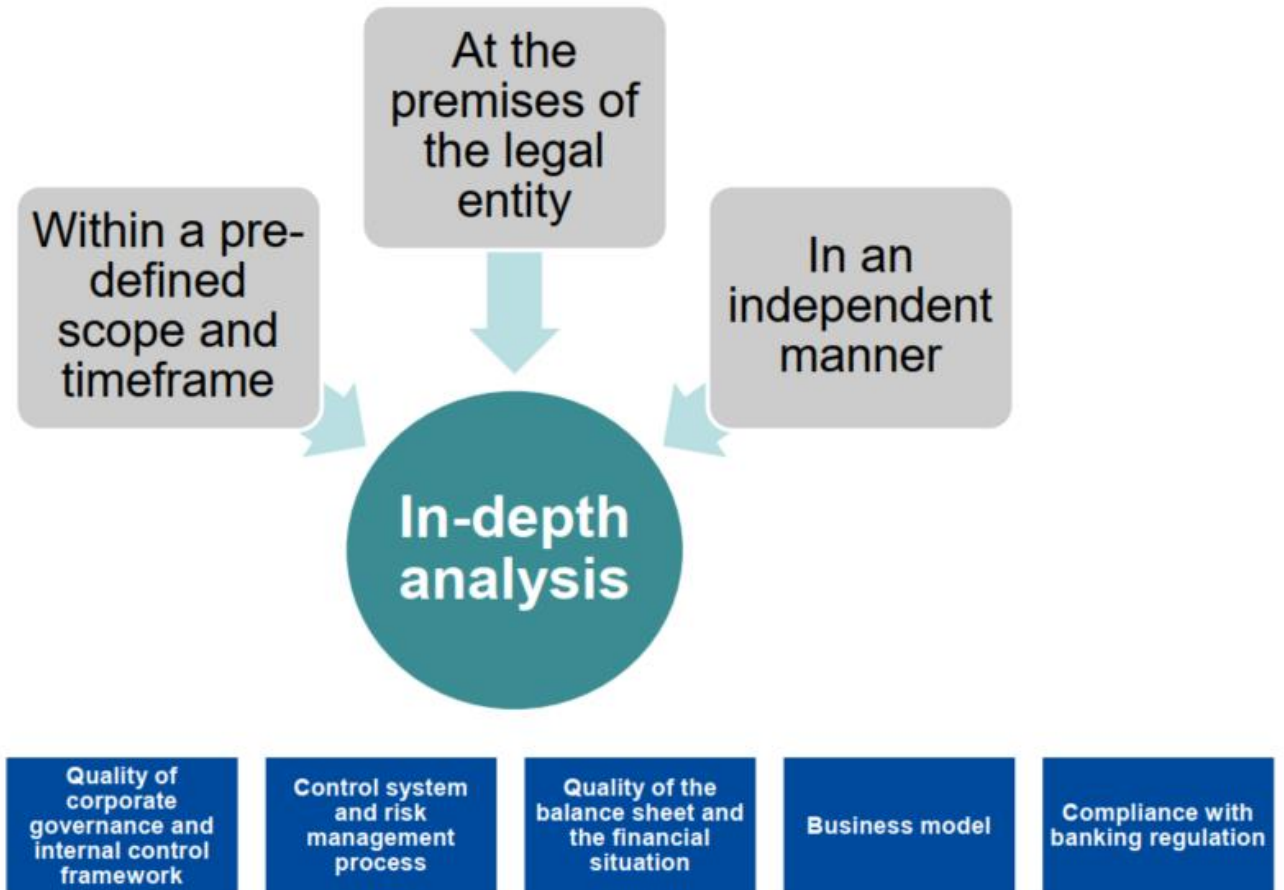
## Objectives of on-site inspections

### Exercises carried out by the ECB

- ❑ **On-Site Inspections (OSI)** : in-depth investigations of risk, risk controls and governance
- ❑ **Internal Model Investigation (IMI)**: in-depth assessments of internal models used for the calculation of own fund requirements, in particular with regard to methodologies, economic appropriateness, risks, risk controls and governance.

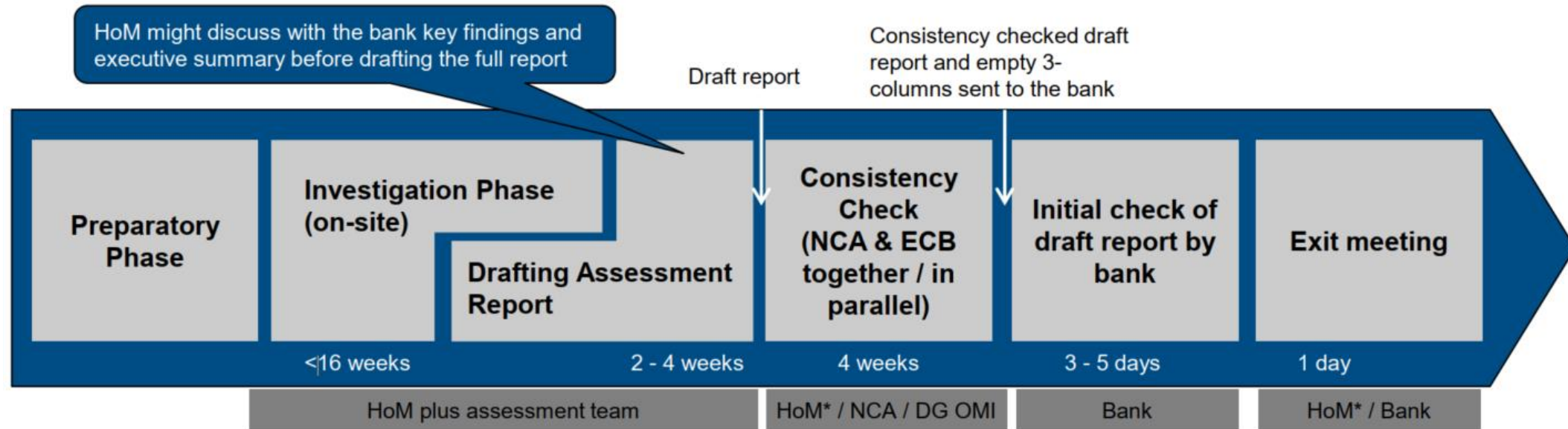
Both types of inspection are carried out on the basis of a **predefined scope, timeline and set of resources**.

The outcome of an inspection is a **report** detailing the findings



# ECB OSI Mission

## OSI life-cycle



### Execution of the work programme. *Techniques used (list not exhaustive)*

- Observation, information verification and analysis
- Targeted Interviews
- Walk-through
- Sampling/case-by-case examinations
- Confirmation of data (integrity, accuracy and consistency)
- Benchmarking
- Model testing

- **HoM:** Head of Mission
- **NCA:** National Competent Authorities
- **JST:** Joint Supervisory Team (composed of supervisors from the ECB and NCAs)
- **DG:** Directorate General



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