



## BCBS 239 Benchmark Survey

How are banks coping with compliance challenges since the publication of BCBS 239 and the finalisation of the ECB RDARR Guide?

**2026**

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# Key Highlights

## Summary

### A decade on, still evolving

Ten years after BCBS 239, banks are still struggling to fully comply, pushing for more robust data strategies as the regulatory landscape evolves with initiatives such as the ECB RDARR Guide. With this compliance gap proving to be persistent, banks must proactively address these challenges to avoid further regulatory censure.

(Reference: Introduction section)

### Model governance takes centre stage

The new emphasis on the governance of risk management models highlights a shift from merely reporting outputs to embedding data integrity directly into core risk model development and usage practices.

(Reference: Figure 6 and Figure 8)

### Budget blind spot

A striking 79% of banks are unable to provide an exact figure for their annual BCBS 239 budget, suggesting that these compliance costs are often buried in broader data, risk and IT expenditure. Without a clear breakdown of costs, banks find it challenging to plan strategically and measure the return on investment (ROI) for ongoing compliance efforts.

(Reference: Figure 11)

### Scope expansion is non-negotiable

The scope of BCBS 239 has dramatically expanded beyond internal risk reporting to now include FINREP/COREP, Pillar 3 disclosures and stress tests. As the supervisory pressure increases, so does the need for more comprehensive data governance solutions. This reflects the industry's concerted effort to bring the business more in line with the broader goals of BCBS 239.

(Reference: Figure 6)

### CDEs: Maturing, but interpretations vary

Banks have become more effective at identifying critical data elements (CDEs), with a surge in firms managing a portfolio of 1,000–2000 CDEs. However, due to different interpretations of what constitutes 'significant impact', the CDE counts vary widely across the industry and make it difficult to ensure consistent implementation.

(Reference: Figure 10)

### Leadership alignment on timelines

Most banks (73%) intend to complete their BCBS 239 implementation in one to three years, tracking progress with regular reporting and rigorous management oversight. Similarly, a large share of respondents (77%) confirm that they include these timelines in their reporting to senior management to demonstrate clear commitment.

(Reference: Figure 12 & Figure 13)

### CRO & CFO take the lead

Primarily responsible for ensuring compliance with BCBS 239 are the Chief Risk Officer (67%) and the Chief Financial Officer (49%), highlighting the strong partnership between the risk and finance departments.

(Reference: Figure 14)

### End-to-end data lineage is the new standard

The market is aligning with regulatory expectations, with 68% of companies now tracing data lineage from the reporting layer all the way back to the source system. Given the ECB's explicit call for lineage "starting from data capture," it is no longer acceptable to stop at the aggregation level, as was common practice in the past.

(Reference: Figure 17)

### Widespread use of EUCs, yet weak governance

End-user computing (EUC) is everywhere, yet a large share (57%) of banks is still not measuring data quality or documenting the critical details needed to establish reliable data lineage. As a result, their reliance on tools with largely unverified data integrity leaves them exposed to significant uncontrolled risks.

(Reference: Figure 22 & Figure 23)

### Remuneration gap

A striking 81% of banks are not linking performance targets to pay for data and IT roles – clearly a missed opportunity to incentivise more effective data governance. The case could be made that linking performance-based pay to these targets would strengthen individual accountability.

(Reference: Figure 16)

### AI in lineage tracking: cautious exploration

Using generative AI (GenAI) to trace data lineage is still in its infancy; most companies are either in the 'observe & evaluate' phase (37%) or focused on 'foundational lineage' applications (37%). To date, no bank has adopted advanced, value-adding GenAI applications here, confirming that this use case is still very much in the exploratory phase.

(Reference: Figure 19)

### Risk appetite for data quality, nascent but growing

51% of banks still track fewer than three risk appetite indicators for data quality (DQ), and yet there is a clear trend towards integrating more granular DQ metrics into formal risk policies. Though the baseline is still low, this points to a significant uptick in adoption and formalisation.

(Reference: Figure 24)

### Beyond compliance, data as a strategic asset

As the BCBS 239 narrative shifts from a regulatory burden to a strategic necessity, more and more banks see investment in data solutions as an essential building block for their digital future. The main driver here is a growing awareness that new technologies, especially GenAI, cannot reach their potential without a solid data foundation.

(Reference: Conclusion section)



# Introduction

## Regulatory & market landscape

The financial crisis that began in 2007 exposed a critical weakness at the heart of global banking: the data and technology infrastructure underpinning risk management and risk reporting was not fit for purpose. In response, the Basel Committee on Banking Supervision published the [BCBS 239](#) Principles in 2013, also known as the Principles for Effective Risk Data Aggregation and Risk Reporting, with the goal of strengthening banks' risk data frameworks and improving the quality of their broader risk management and decision-making.

More than a decade after the publication of these principles – and despite significant investment by the industry – regulators are still disappointed with the banks' progress towards full compliance. With this compliance gap proving persistent, now is the time for banks to proactively address these challenges.

As part of our roundtable series promoting dialogue among leading European banks, Deloitte recently conducted the second edition of the BCBS 239 benchmarking survey.

In this second edition, we provide up-to-date insights into the requirements of both the BCBS 239 and the [ECB's RDARR Guide](#), as well as a critical assessment of the progress financial institutions have made since the publication of our [first benchmark report in 2024](#).

As the regulatory landscape evolves and technology makes rapid strides, these findings offer a fresh take on the industry's progress. We remain committed to providing up-to-date perspectives that support banks in navigating these critical requirements.

### How did we get here?

The first BCBS 239 progress report was published in late 2013, followed by a series of subsequent reports. From the outset, the supervisory authorities have repeatedly expressed dissatisfaction, pointing out that a number of systematically important banks (SIBs) have failed to allocate sufficient resources and management attention to the aggregation and reporting of risk data.

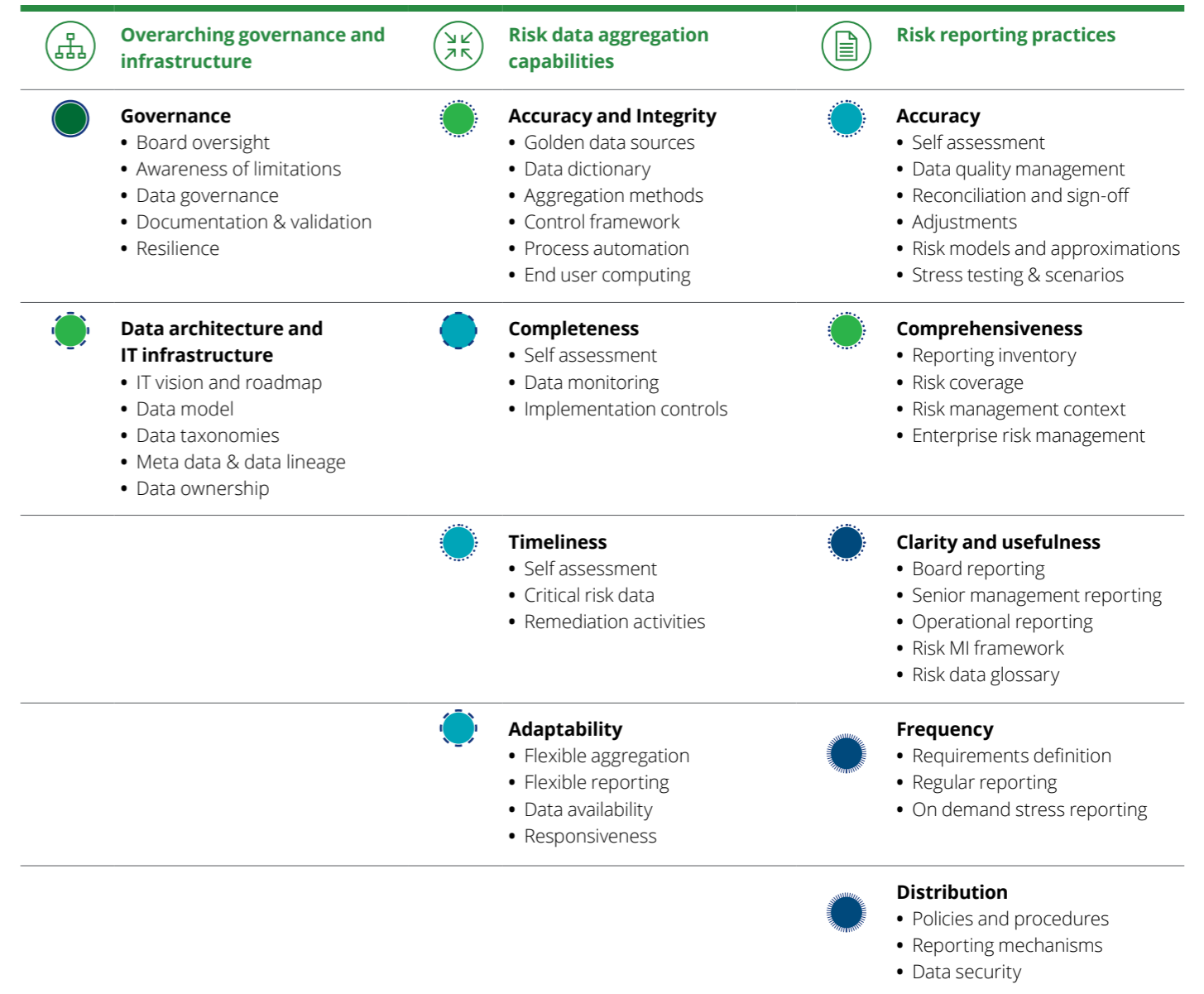
Regulators have stepped up their oversight efforts since 2018 – in a series of publications announcing their intentions and in a subsequent campaign of on-site inspections – culminating in the publication of the final version of the ECB RDARR Guide in May 2024.

### What have we learned from on-site inspections (OSI) to date?

Based on our work with banks during on-site inspections, we developed the following heat map. We had expected the regulators to identify many medium- to high-severity findings in areas such as data architecture or accuracy. However, the regulator's particular focus on governance and management oversight, scope of application and monitoring as well as independent validation (in terms of second-line risk control) caught many banks off guard. There is strong evidence to suggest that the high-severity findings relating to inadequate management oversight are designed to encourage C-suite executives to give this issue the attention and awareness that the ECB believes it deserves.

**Fig. 1 – Market Observations**

Insights from On-Site Inspections reveal clear supervisory priorities across Europe



**Legend**    Very high    High    Moderate    Low  
 Impact:    ●    ●    ●    ●  
 Count:    ○    ○    ○    ○



# The ECB RDARR Guide

## Key requirements

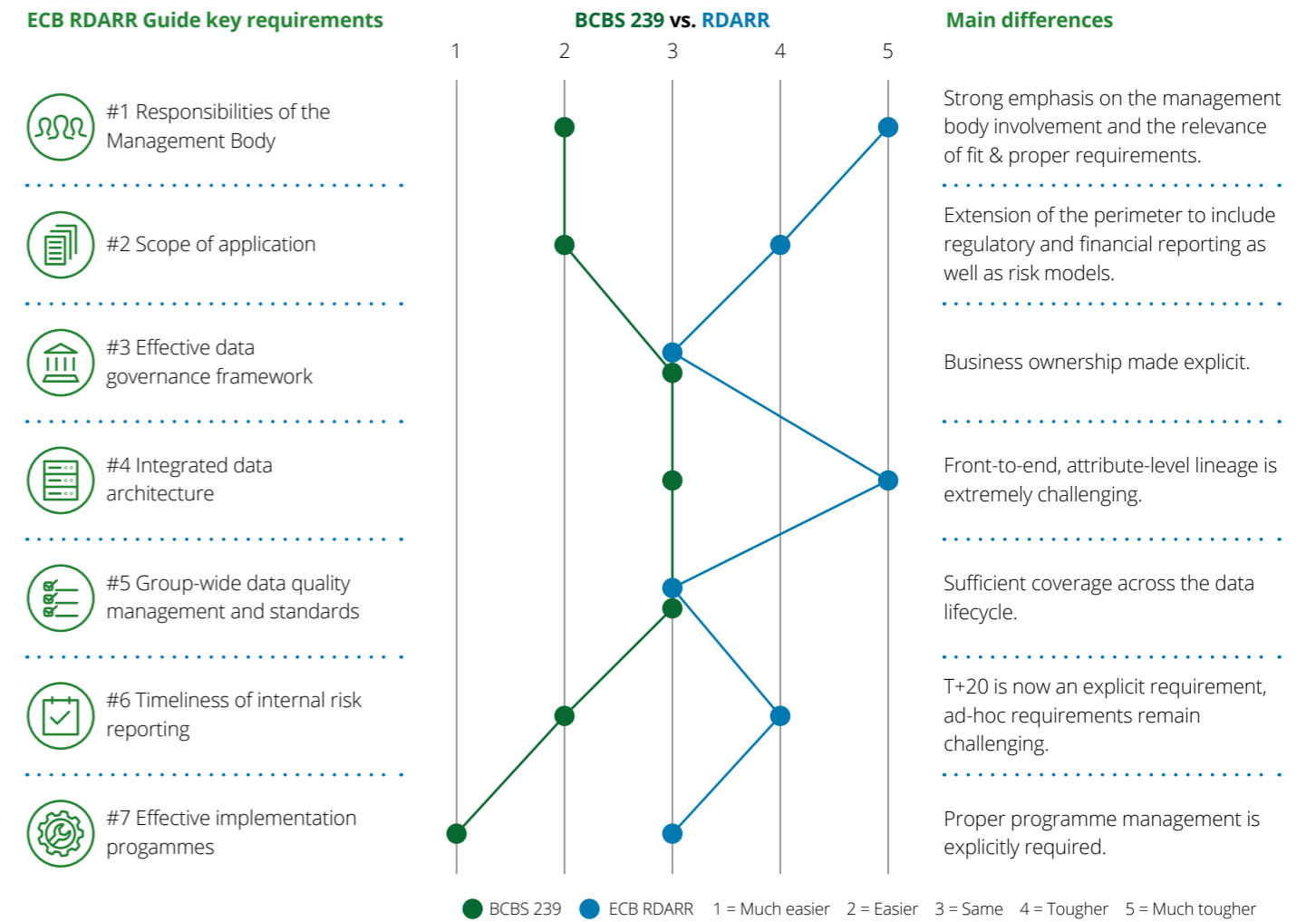
In response to regulatory censure, the banks have repeatedly argued for more guidance on interpreting the principles-based standards and setting the right priorities in their compliance initiatives. Following these requests, the ECB responded with the Guide on Risk Data Aggregation and Risk Reporting (RDARR),

which is designed to help banks understand the requirements and address any potential problems.

Figure 2 illustrates the seven areas of focus in the ECB guide (see example below).

**Fig. 2 – Comparison of BCBS 239 and ECB RDARR guide requirements**

The RDARR guide introduces stricter expectations and higher maturity requirements across several key categories, in contrast to the initial BCBS 239 requirements



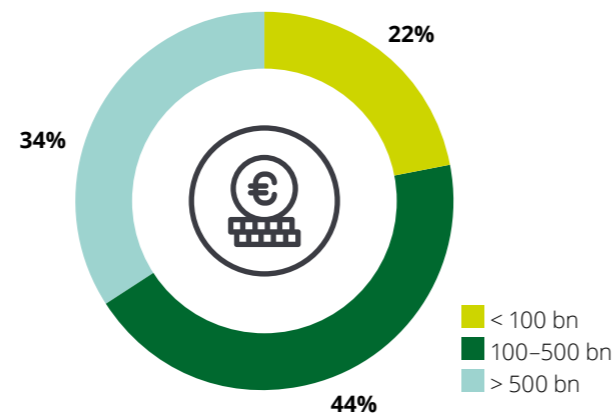
# Survey demographics

## Distribution, region & size

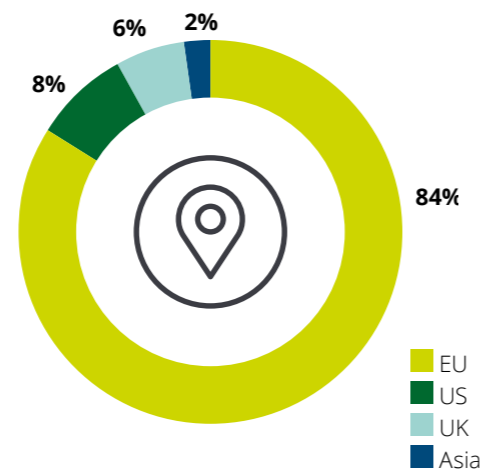
The survey findings, which include responses from bank representatives and roundtable participants, also draw on insights from our extensive client practice and interactions with regulators. Based on contributions from 50 banks across a wide range of jurisdictions and diverse business models, this comprehensive approach deepens our understanding of the challenges facing financial institutions with BCBS 239 compliance.

Most of the participants in our survey are large, multi-national banks. Around 34% of the participating banks have total assets of more than 500 billion euros, compared to just 22% with less than 100 billion euros. In terms of their geographical profile, around 84% of the banks have their headquarters in the European Union, while the rest are global banks based in the US, the UK and Asia with significant operations in Europe.

**Fig. 3 - Banks' asset size (€bn)**



**Fig. 4 - Parent institution based in:**



# Scope of application

## Key findings

Given the significant effort involved in complying with BCBS 239, banks have historically limited the scope to internal risk reporting. This narrow application does not meet the regulators' expectations. They have made it clear that these principles also apply to financial and regulatory reporting, a view endorsed by the BCBS, which referred to it as 'an example of effective governance'.

Consistent with the persistent pressure from regulators, our latest survey data confirms a significant expansion in the scope compared to 2024. While internal risk reporting remains a core focus, we have seen a significant increase in the application of these principles to FINREP/COREP, Pillar 3 disclosures and stress test reports to the European Banking Authority (EBA) and the Single Supervisory Mechanism (SSM). The introduction of the 'Risk management model' category, in particular, signals a new emphasis on model governance. These findings reflect the concerted effort in the industry to bring the business more in line with the broader goals of BCBS 239.

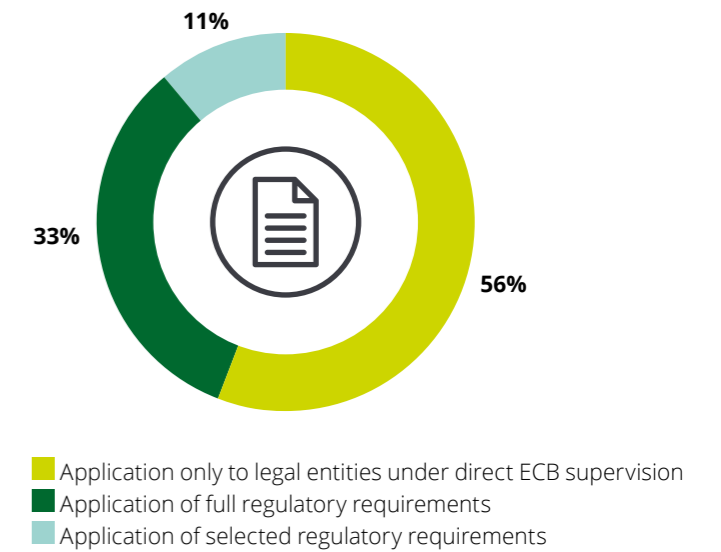
### Non-EU banking groups

As illustrated in Figure 5, banks domiciled outside the EU have a different approach to BCBS 239/RDARR implementation. A majority of our non-EU respondents (56%) apply these principles exclusively to those legal entities that are under the direct supervision of the ECB. Their approach, in other words, is the targeted application to a subset of the group's legal entities.

The remaining 44% of non-EU respondents pursue a different strategy. 33% apply BCBS 239/RDARR group-wide, complying in full with all regulatory principles. The other 11% only adhere to selected regulatory requirements, suggesting a more tailored approach to the applicable scope.

This divide highlights the fundamental choice facing non-EU banks: Either pursue a group-wide, comprehensive compliance strategy or adopt a more pragmatic approach tailored to individual jurisdictions, which applies only to a subset of entities or requirements.

**Fig. 5 - Scope of BCBS 239/RDARR Application among non-EU banks**



**Key trends in the market**

Based on our survey data, Figure 6 shows how the scope of the BCBS 239 has evolved, highlighting 3 key trends:

**1. Larger scope for core regulatory reporting:**

- **Risk reports:** Adoption of these principles for internal risk reports, the most mature domain, is now almost universal at 46 respondents (up from about 18 in 2024). Those targeting future full compliance also saw a sharp jump, rising from 1 to 13.
- **FINREP/COREP:** The number of respondents actively including these regulatory submissions in their compliance programmes has more than doubled to 38. This is the highest increase in our survey, indicating a clear industry-wide push to bring these key regulatory reports in line with BCBS 239 standards.
- **Financial reports:** We see a similar surge in quarterly and annual financial reports, where application rates have tripled to 30. With another 22 respondents now targeting full compliance in the future, there is a clear, ongoing commitment to this reporting.

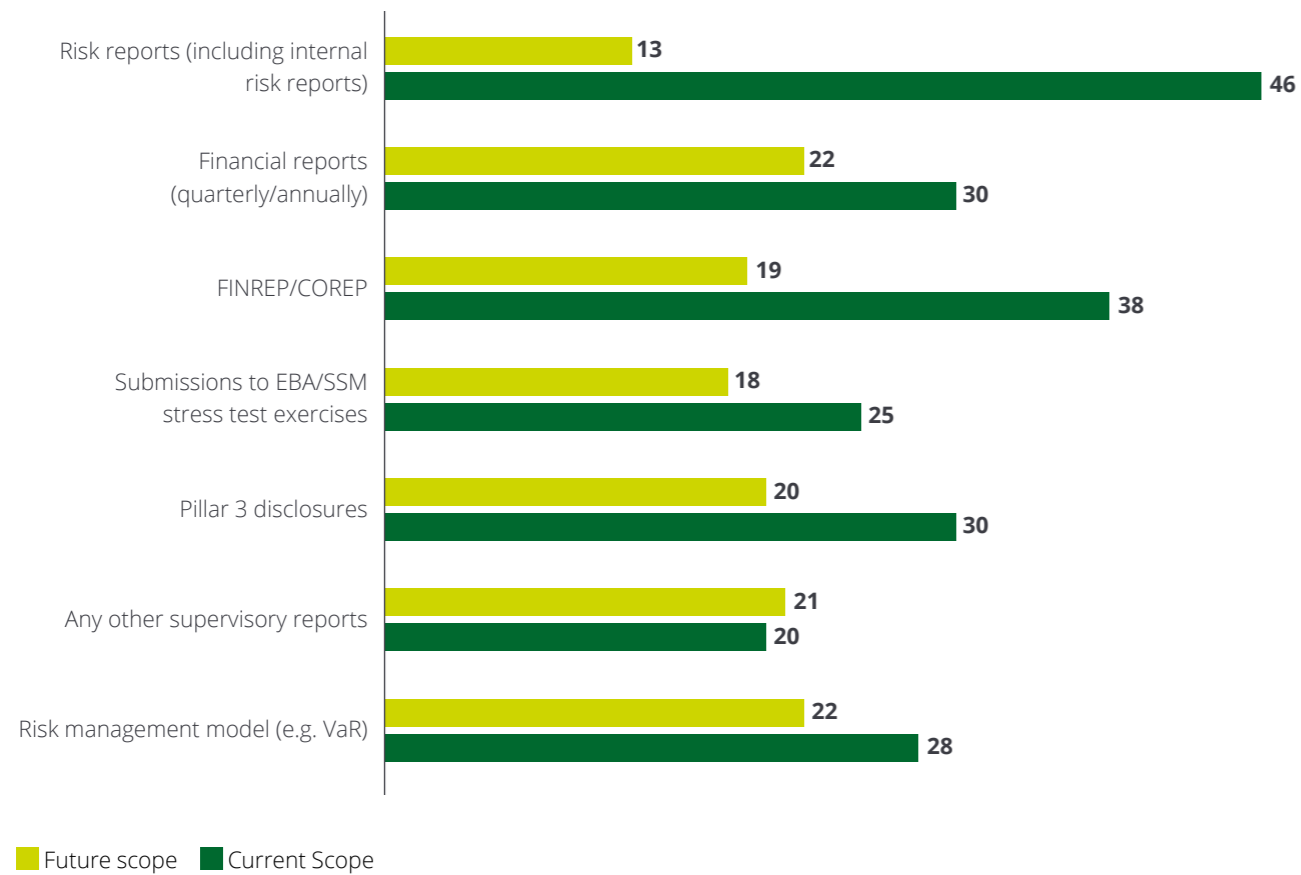
**2. Increased focus on stress testing and disclosures:**

- **Stress tests & Pillar 3:** The number of banks applying these principles here has doubled (25 for EBA/SSM stress tests and 30 for Pillar 3 disclosures). Looking ahead, an additional 18 and 20 respondents plan to achieve future compliance, signalling a sharper strategic focus on data integrity in these high-profile disclosures.

**3. Emerging areas and stabilisation:**

- **Risk model governance:** The new category 'Risk management model' debuts with strong adoption (28 currently, 22 in future). This highlights a shift from simply reporting outputs to embedding the principles directly into the governance of risk models themselves.
- **Broader supervisory application:** The increase in the number of respondents submitting 'Any other supervisory reports' (from 5 in 2024 to 20) confirms a clear trend towards a more comprehensive application of BCBS 239 across all regulatory interactions.

**Fig. 6 – Scope of BCBS 239 principles application to key submission and reports**



Note: Respondents were asked to choose all categories that apply in this multi-response question.

**Financial reports**

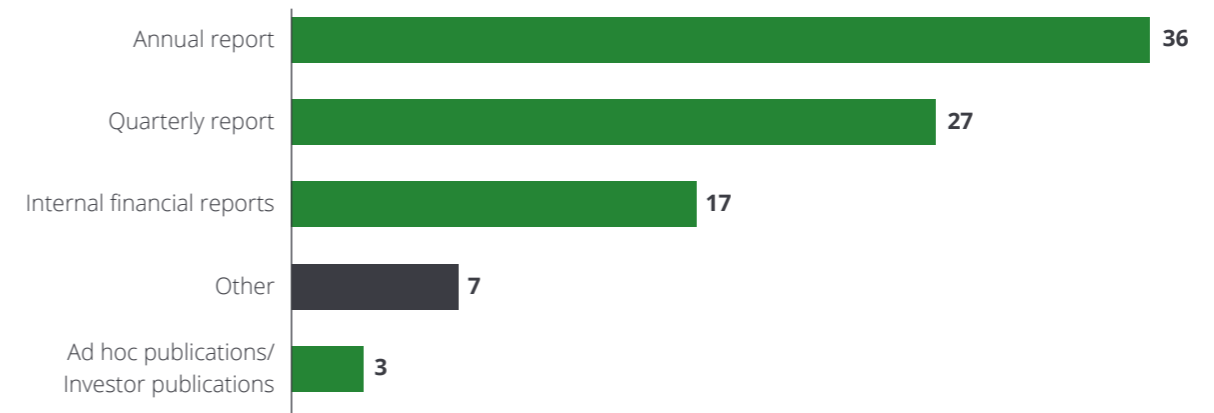
Given the strict accounting standards and high level of oversight in the area of financial reporting, many banks see little benefit in extending the scope of BCBS 239.

Figure 7 below shows that banks apply BCBS 239 in financial reporting with a strong focus on formal, structured reports, which reveals a clear hierarchy of priorities.

- **Priority 1:** Periodic external reporting: The primary focus is on public-facing, time-bound disclosures, above all annual reports (36 respondents) and quarterly reports (27 respondents).
- **Priority 2:** Internal and granular reporting: A substantial group of respondents have extended the scope to internal financial reports (17 respondents). The 'Other' category (7 respondents) points to a more tailored, granular application, covering specific metrics like monthly capital and liquidity.

- **Lowest priority:** Ad hoc publications: Unscheduled or less formal communications, such as investor updates, remain firmly out of scope for the majority of banks (3 respondents).
- **Selective application vs. across-the-board mandate:** While banks are strategically prioritising BCBS 239/RDARR principles for formal, external financial reports (e.g., annual and quarterly reports, as depicted in Figure 7), the RDARR mandate requires consistency across all risk data and reporting. This selective focus means that internal financial reports and ad-hoc communications often lack the same rigorous data aggregation and reporting standards. Such gaps create inconsistencies and prevent management from obtaining a truly comprehensive, enterprise-wide view of risk.

**Fig. 7 – Financial reports within BCBS 239/RDARR scope**



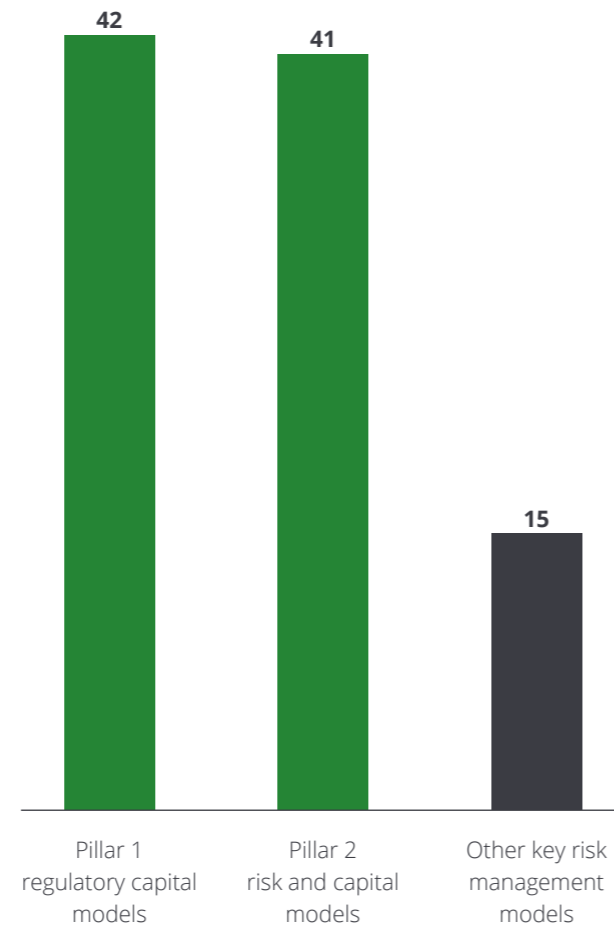
Note: Respondents were asked to choose all categories that apply in this multi-response question.

**Risk management models**

As outlined in Figure 8, our findings reveal a clear hierarchy in BCBS 239 application to risk model governance, starting with regulatory requirements and expanding outwards.

- **Universal focus on capital adequacy:** The primary focus is on models directly linked to capital. The vast majority include Pillar 1 and Pillar 2 models, in line with the core regulatory intent of BCBS 239.
- **Initial expansion into broader risk types:** While many focus on core compliance, a smaller but significant cohort of banks (15 respondents) is already pushing the boundaries. They are pioneering the application of these principles to a much wider range of critical models – from IFRS 9 credit loss provisioning and funding/interest rate risk (FTP, IRRBB) to liquidity management and credit scoring, some even including the models that drive trading decisions. This isn't just about compliance; it's about embedding data integrity into every strategic financial decision.
- **Strategic implications:** This expansion demonstrates a growing maturity in model governance, moving beyond compliance to a more comprehensive strategy where data integrity is critical for all material risk decisions.

**Fig. 8 – Risk management models within the scope of BCBS 239/RDARR**



Note: Respondents were asked to choose all categories that apply in this multi-response question.

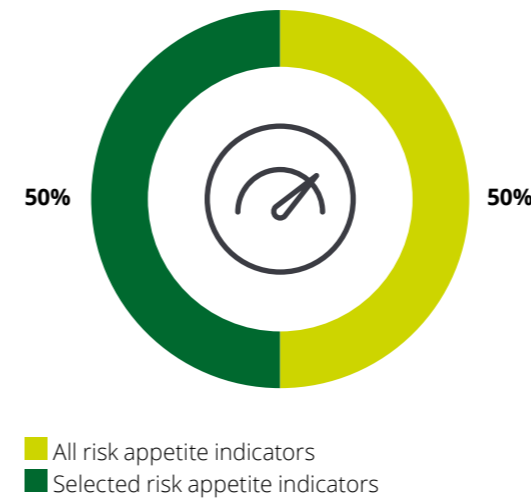
**Key risk indicators**

**Disparity in risk appetite indicator coverage:** Our survey results (Fig 9.1 & Fig 9.2) reveal an equal split among respondents: 25 banks include all risk appetite indicators within their BCBS 239/RDARR scope, while the other 25 apply only a selected subset. This lack of consensus signals that banks have yet to converge on a standardised approach to covering risk appetite indicators and reflects the varying stages of adoption across the industry.

**Fragmentation beyond formal risk appetite boundaries:**

The distribution of key indicators operating outside formal governance controls remains notably balanced across functions—financial (28), risk (27) and regulatory (25). This suggests that a substantial proportion of risk data is not yet subject to formal reporting standards, and that fragmentation poses a direct challenge to the holistic, enterprise-wide risk aggregation envisioned under BCBS 239.

**Fig. 9.1 – Type of risk indicators within the scope of BCBS 239/RDARR**

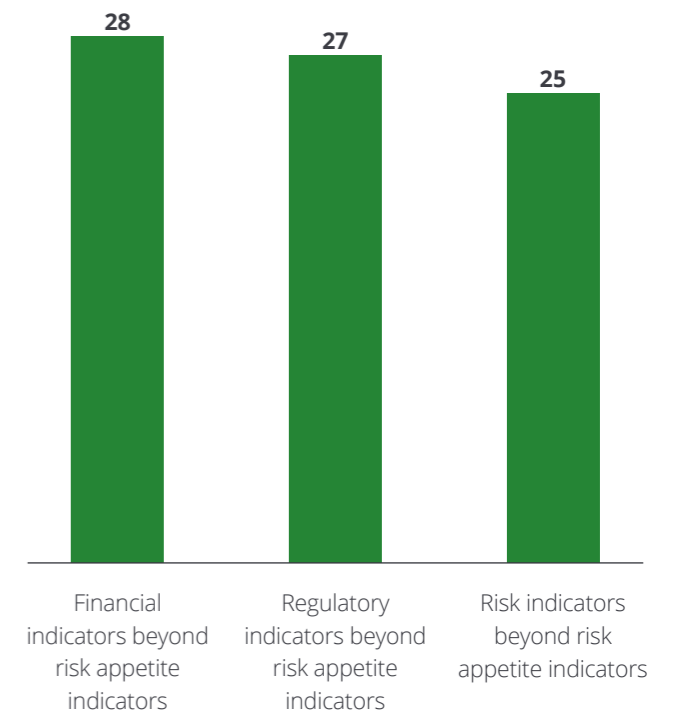


**Cross-functional inconsistencies and their implications:**

Financial indicators represent the largest share of out-of-scope metrics. This is consistent with the continued use of lagging, backward-looking measures in finance departments where forward-looking risk appetite controls have yet to be embedded in governance frameworks. Conversely, the lower proportion of out-of-scope regulatory indicators reflects the compliance-driven pressure to align these metrics with supervisory requirements, as mandated under BCBS 239.

**The overarching challenge:** Together, these findings underscore the banks' ongoing struggle to achieve seamless, consistent KRI integration across finance, risk and regulatory silos—a critical enabler for robust data aggregation, auditability and real-time risk visibility at the enterprise level.

**Fig. 9.2 – Key indicators in BCBS 239/RDARR scope (Multi-Select)**



Note: Respondents were asked to choose all categories that apply in this multi-response question.



#### Comparative analysis by asset size: >€500bn vs <€500bn

- **Similarities:** For most quantitative results – e.g., BCBS 239/RDARR application in non-EU institutions, the scope of risk management models, the number of risk appetite metrics defined for data quality and the number of critical data elements – the responses from both groups are remarkably similar. This suggests a shared understanding and implementation baseline for the core BCBS 239 principles across the different asset sizes in our survey sample.
- **Variations in reporting coverage:** Banks with assets under €500bn tend to have a broader current scope for various risk, financial and regulatory reports (e.g., Pillar 3 disclosures, FINREP/COREP and other supervisory reports). They also report a higher share of “Other” and “Internal financial reports”. This suggests these smaller banks are either more comprehensive in their current application or have adopted a more inclusive definition of what falls under BCBS 239/RDARR.

While there are some minor differences in the breadth of reporting coverage, the bigger picture of the “Scope of Application” findings suggests a largely consistent approach to BCBS 239/RDARR implementation across banks of varying asset sizes, particularly when it comes to core elements from risk management models to DQ metrics and CDEs.

#### Analysis by headquarters: EU vs non-EU

##### Institutions domiciled outside the EU:

- **Selective implementation:** Based on our findings, banks headquartered outside the EU apply BCBS 239/RDARR either group-wide – with full or selected compliance – or strictly to their legal entities that are under direct ECB supervision. US-based institutions focus mainly on ECB-supervised entities, while UK-based banks show a mix of global and local approaches. This highlights the strategic choices these banks make to meet EU obligations without necessarily extending the full scope to their global operations.
- **High volume of CDEs:** Banks headquartered outside the EU tend to report a higher number of critical data elements (CDEs) than their EU counterparts, with a plurality of banks reporting more than 2000 CDEs. This could reflect the larger, more complex and geographically diverse operations of these global institutions.

##### Institutions domiciled within the EU:

- **Extensive reporting coverage:** Banks headquartered in the EU show near universal application of BCBS 239/RDARR across all reporting, financial instruments, risk models and key indicators. This suggests that these principles are deeply embedded within their core operations and reporting policies, likely driven by direct ECB and local regulatory pressure.
- **Focus on “All risk appetite indicators”:** Widespread inclusion of “All risk appetite indicators” reflects a mature approach to linking data aggregation and reporting directly to their core governance strategy.
- **Moderate CDEs:** While still significant, EU-headquartered banks generally report fewer CDEs than their non-EU peers. Most respondents report between 500 and 1000 CDEs, suggesting a more refined methodology for identifying and classifying critical data within their governance perimeter.

Banks domiciled within and outside the EU are actively implementing BCBS 239/RDARR principles in various reporting and risk management practices. Non-EU banks often apply these standards selectively to their ECB-supervised entities, whereas EU banks generally implement them group-wide. The volume of critical data elements also serves as a key differentiator, reflecting the scale and complexity of global versus regional operations.

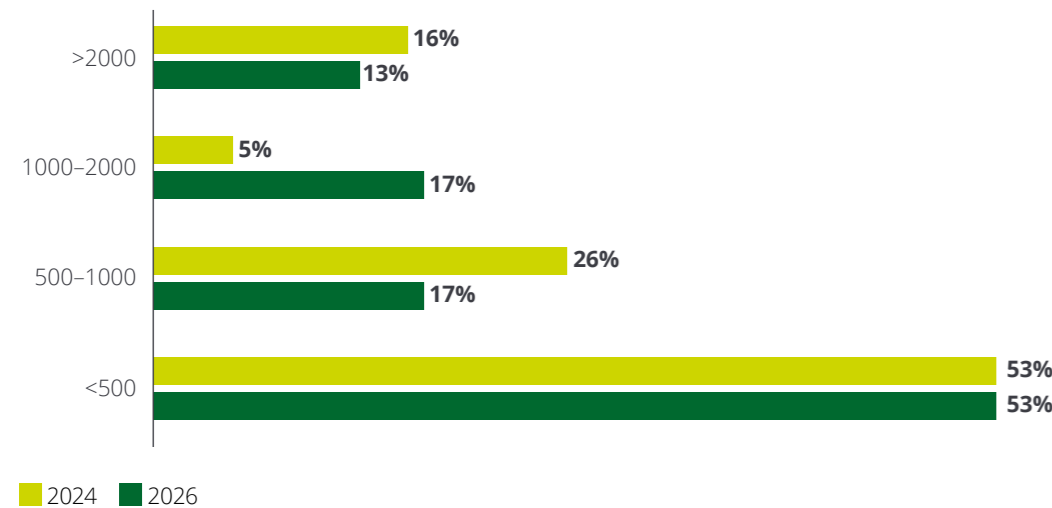
# Integrated data architecture (CDEs)

## Key findings

The RDARR guide prioritizes critical data elements (CDEs) as the primary building blocks for risk reporting and aggregation, referencing them no less than seven times. They are defined as “the data elements that are used to calculate the key risk indicators and have a direct or significant impact on the value of the indicator or technical routine of the calculation and the reporting.” While some banks concentrate on the initial calculation aspect, others focus on the broader impact on reporting and technical routines.

In Figure 10, the findings from this year’s survey provide an updated view of CDEs under BCBS 239. The stagnation in CDE volumes may partly explain the continued regulatory criticism, while also highlighting the significant challenges banks face in meeting this demanding requirement.

**Fig. 10 – Number of CDEs under BCBS 239**



# Implementation/remediation

## Key findings

Implementation and remediation are central to BCBS 239 compliance, enabling banks to address legacy deficiencies and align their risk data aggregation and reporting practices with regulatory standards. This is not a one-off task but a continuous, strategic process. It requires detailed remediation plans with specific actions, timelines and accountable owners to strengthen governance and refine reporting processes, ultimately ensuring robust risk management.

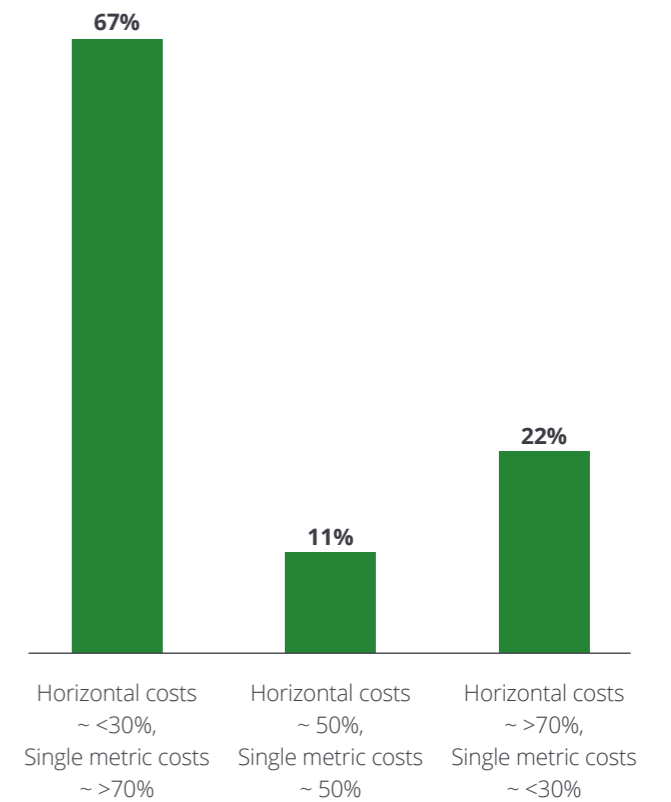
In one key finding from our survey, we found that 79% of respondents are unable to precisely quantify their annual budget allocation for BCBS 239 implementation. This suggests that they are not tracking exact compliance costs, but rather burying these expenses in their broader budgets for data management, risk functions, and IT infrastructure.

For the small minority able to provide a detailed breakdown, the data reveals a mix of horizontal (supporting cross-functional systems) and metric-specific expenses (tied to individual reporting requirements).

The lack of granular cost attribution hinders strategic planning and makes it difficult for banks to measure the return on their compliance investments.

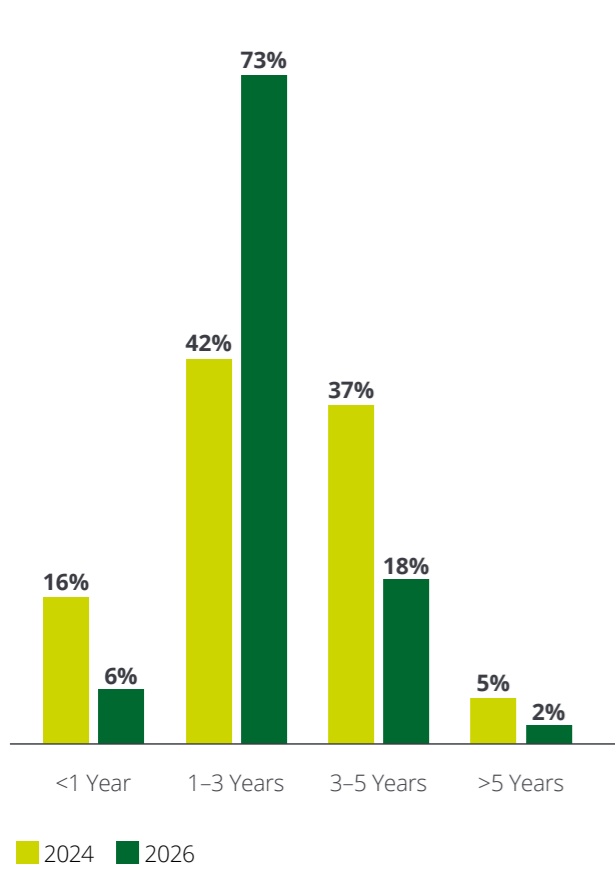
Banks must signal a credible commitment to remediation by ensuring plans are fully funded and readily auditable for regulatory review.

**Fig. 11 – Annual budget allocation attributable to BCBS 239/RDARR implementation<sup>1</sup>**

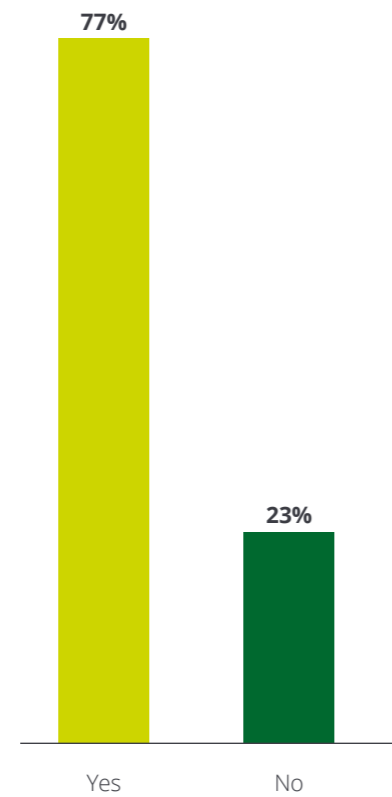


<sup>1</sup>79% of participants were unable to provide this breakdown; the chart is based on the remaining respondents only.

**Fig. 12 – Expected BCBS 239/RDARR implementation timeline**



**Fig. 13 – Inclusion of programme timeline in management reporting**



**Programme timelines and management reporting**

Most banks in our survey say they plan to complete their BCBS 239/RDARR implementation within the next one to three years and have already formalized these timelines with senior management.

Survey data (Figs. 12 and 13) indicates that 73% of respondents expect to complete their programmes within three years, with a similarly high proportion (77%) including these milestones in their data governance reporting. This shows a clear commitment to management oversight, ensuring progress on these important data projects is transparent and measurable.

**Comparative analysis by asset size: > €500bn vs < €500bn**

- **Cost allocation:** Both groups struggle to provide a detailed breakdown of implementation costs. Smaller banks tend to allocate a higher proportion of their budget to single metric costs, while larger institutions either distribute the costs evenly or – more frequently – lack the visibility to quantify their allocation.
- **Implementation timeline:** The majority of respondents in both groups have a one-to-three-year timeline for implementation. However, smaller banks tend to have a wider range of timelines, including both shorter and longer periods. The majority of larger banks, on the other hand, fall within the one to five year range.
- **Disclosing timelines in management reports:** Smaller banks are more likely than larger banks to formalise their BCBS 239/RDARR implementation timelines in reports to senior management.

These findings suggest that, although there are some similarities, smaller banks adopt a more varied approach to budgeting and timelines. This may be because they are either at different stages of implementation or under budget constraints. That said, smaller banks also appear to be more likely to include their implementation timelines in data governance reports than their larger counterparts.

**Comparative analysis by headquarters: EU vs non-EU**

- **Universal lack of budget breakdown:** Banks headquartered in the EU and outside the EU struggle to precisely quantify their BCBS 239/RDARR implementation budgets. This suggests that costs are often embedded within broader data and IT transformation expenditure rather than reported as separate line items. This challenge is even more pronounced for banks headquartered outside the EU.
- **Medium-term implementation across the board:** Both groups plan to complete their BCBS 239/RDARR implementation within the next five years. It seems that all banks, regardless of headquarters' location, recognise the substantial and sustained effort required for BCBS 239/RDARR compliance.
- **Varying results in formalised reporting:** Banks headquartered in the EU are much more likely to formally include BCBS 239/RDARR implementation timelines in their reports to senior management, which suggests they are subject to more rigorous oversight standards. It also indicates that banks within the EU jurisdiction include BCBS 239/RDARR in their strategic management discussions, possibly due to the high expectations of EU regulators. Banks headquartered outside the EU, though they still implement these principles, do not appear to focus as much on formally reporting timelines in management reporting.

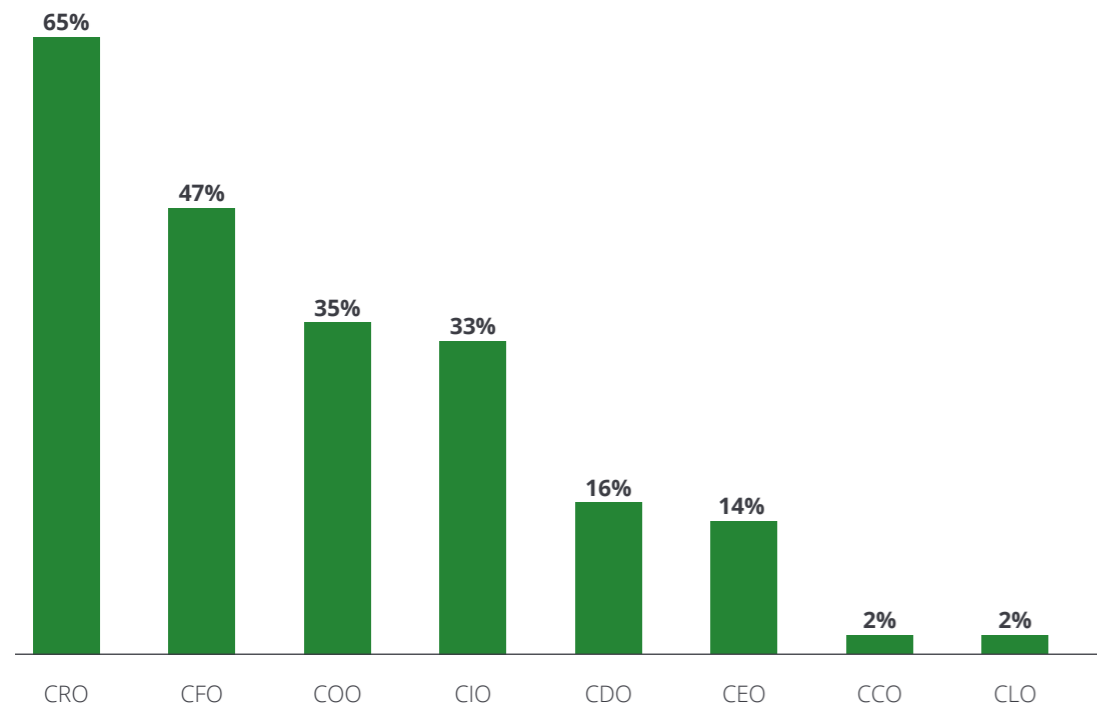


**Role of the management body**

According to our survey, Chief Risk Officers (CROs) and Chief Financial Officers (CFOs) are mainly responsible for implementing BCBS 239/RDARR, with most respondents (65%) citing the CRO, followed by the CFO (47%).

These results show the central importance of risk management and financial reporting for compliance, though other key roles are mentioned as well. The Chief Operating Officer (COO) and Chief Information Officer (CIO) were cited by 35% and 33% of respondents, respectively, an indication that operations and IT are also critical to successful implementation. Another role that seems to be gaining traction is that of Chief Data Officer (CDO), which was cited by 16% of respondents.

**Fig. 14 – BCBS 239/RDARR implementation responsibility by role**

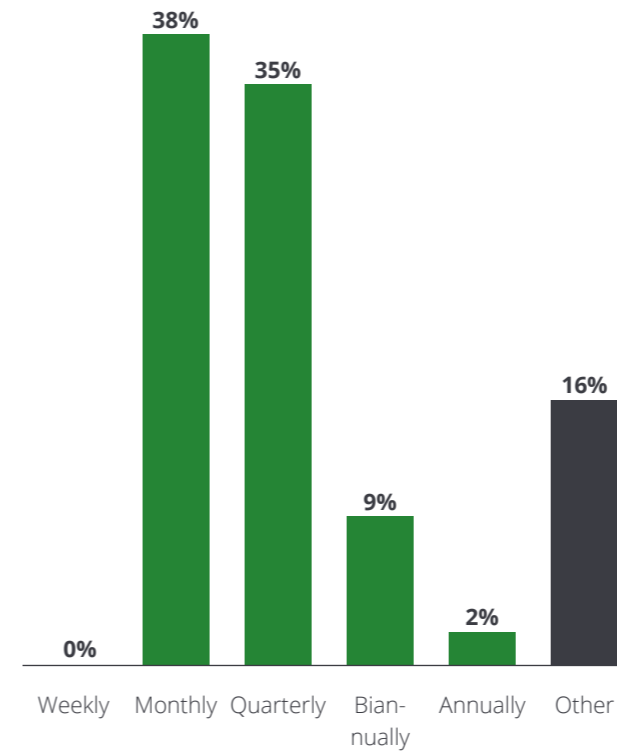


Note: Respondents were asked to choose all categories that apply in this multi-response question.

At just 2% each, very few respondents cited the Chief Compliance Officer (CCO) and the Chief Legal Officer (CLO) as those responsible for implementing BCBS 239/RDARR.

Overall, the data shows a clear partnership between risk and finance leaders, actively supported by operations and technology teams.

**Fig. 15 – Governance reporting frequency for BCBS 239/RDARR implementation**



Note: Respondents were asked to choose all categories that apply in this multi-response question.

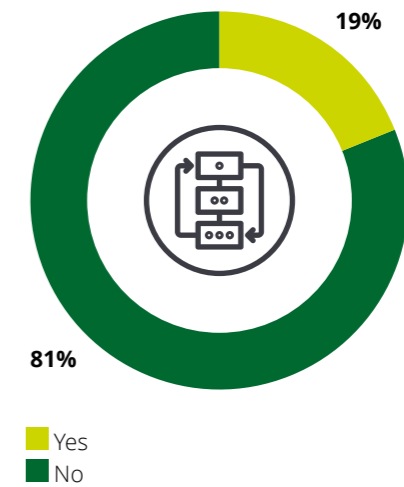
**Frequency of progress reports**

Most banks report to senior management or to the management board on their progress with BCBS 239/RDARR implementation on a monthly or quarterly basis.

Our survey found that monthly reporting is the most common approach (38%), followed closely by quarterly reporting (35%). Together, these two categories make up the largest share of responses, indicating that regular updates have become standard industry practice.

A smaller group (16%) reports on an ad hoc basis or at key project milestones, which suggests that they have a more flexible approach to tracking progress.

**Fig. 16 – Inclusion of data management and IT capabilities in performance-linked pay**



**Performance-linked pay for data and IT roles**

Our survey reveals a significant discrepancy between the importance of data management under BCBS 239 and the way banks incentivise performance.

The majority of banks (81%) have not yet started linking pay to performance for data, IT and risk data aggregation roles. Only 19% have included incentives like these in their official remuneration policies.

Clearly there is an opportunity for improvement here: Offering performance-based pay in these critical functions would significantly strengthen accountability and speed up progress towards more mature data governance practices across the industry.

Our analysis suggests that a majority of banks are currently evaluating whether to introduce performance targets for data and IT roles in direct response to regulatory pressure.

#### Comparative analysis by asset size: >€500bn vs <€500bn

There is no discernible difference between banks with assets exceeding or under €500bn in all three questions from the 'Role of the management body' section.

- **Management involvement:** Both larger and smaller banks tend to delegate responsibility to the same senior management roles.
- **Reporting frequency:** They both report to senior management and the board with the same frequency.
- **Performance-based pay:** Both groups show a consistently low adoption rate for remuneration linked to data and IT performance.

These consistent results suggest that banks, regardless of their asset size, adopt a similar approach to involving management, reporting progress and introducing pay incentives as part of BCBS 239/RDARR implementation. So, either the scale of the institution has no bearing here, or the main drivers are regulatory expectations and best practices that have been broadly adapted across the industry.

#### Comparative analysis by headquarters (HQ): EU vs non-EU

- **Similarities in oversight:** Both EU and non-EU headquartered banks report a high level of C-suite engagement and frequent reporting on BCBS 239/RDARR progress, underscoring the universal importance of this principle.
- **Universal challenges in remuneration:** Many banks in both groups struggle to – or deliberately choose not to – offer performance-based pay for data and IT roles. This suggests that banks have not yet included performance targets in their formal incentive schemes for BCBS 239/RDARR compliance.
- **Leadership nuances:** While CROs lead the effort in all banks, EU-based banks tend to keep the project focused within the risk and finance departments. By contrast, non-EU banks involve a wider range of C-suite executives. This broader involvement likely helps them manage the complex, varying regulations they face in different jurisdictions.



# Integrated data architecture (data lineage)

## Key findings

Integrated data architecture and robust data lineage are essential pillars for compliance with BCBS 239, a policy designed to ensure effective risk data aggregation and reporting and ultimately enhance banks' risk management performance.

The ECB RDARR guide asks for data lineage "starting from data capture and including extraction, transformation and loading" and data quality controls "from front office systems (and other capture systems) to the reporting layer". This raises the question: What does end-to-end lineage actually mean in practice?

The guide explicitly requires data sources to be traced "starting from data capture", effectively invalidating the previous practice of stopping data lineage at the aggregation layer.

The survey results confirm an ongoing market trend towards a stricter interpretation of end-to-end data lineage.

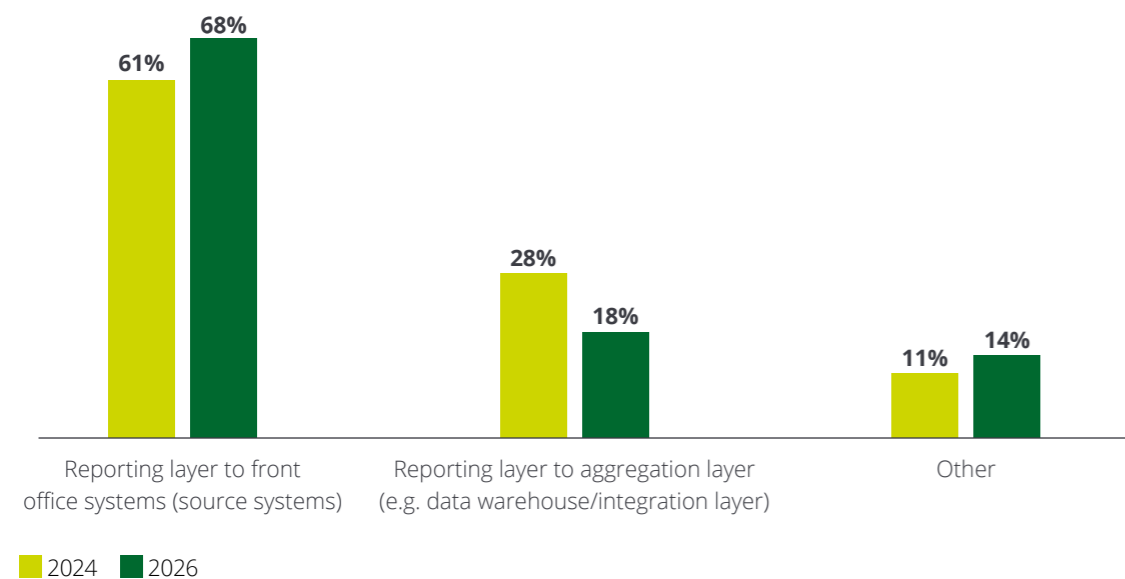
Between 2024 and 2026, banks have clearly expanded their definition of end-to-end lineage, with 68% now tracing lineage from the reporting layer back to source systems, up from approximately 61% in 2024.

Reliance on lineage limited to the aggregation layer continues to decline (now 18%), indicating a move away from legacy, partial lineage approaches.

The consolidation of "other" definitions (14%) further signals market convergence towards a more consistent and mature understanding of end-to-end data lineage.

Overall, the market is converging towards regulatory-aligned end-to-end lineage, although practical integration challenges remain, particularly for complex digital channels and distributed source systems. Given the extraordinary effort and challenges involved in verifying data lineage, banks and regulators are currently in talks to determine whether a risk-based approach might be a more appropriate solution.

**Fig. 17 - Banks' definition of 'end-to-end' coverage**



### Data lineage documentation

Our survey reveals a tiered approach to data lineage documentation: comprehensive at a high level but increasingly selective and risk-based at more granular levels.

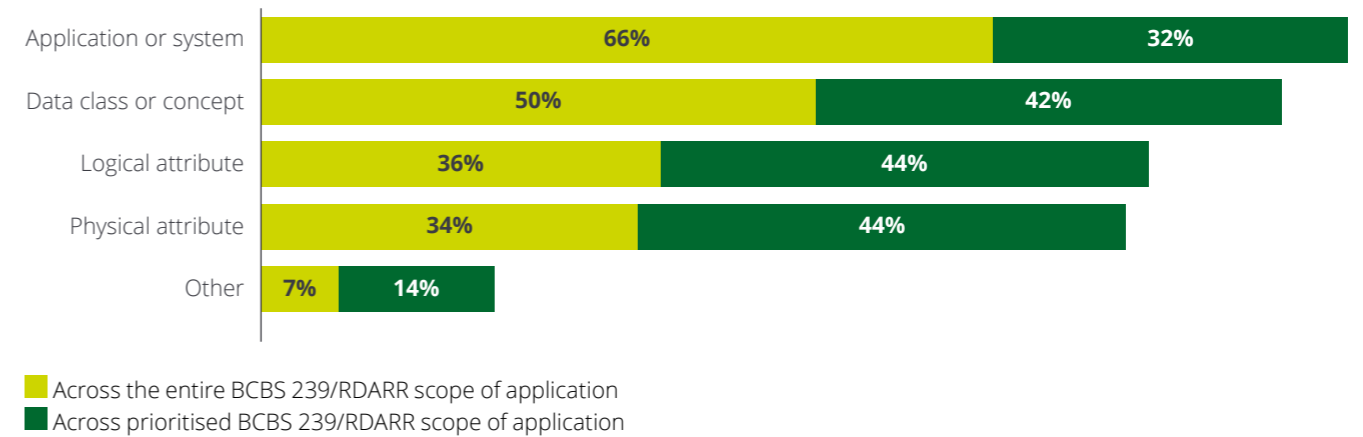
At the application or system level, maturity is at its highest. Nearly all respondents document lineage at this level, with an impressive 66% (33 respondents) reporting full coverage across all BCBS 239/RDARR requirements. Only 2% of banks do not document data lineage at this level.

For attribute-level documentation (covering data classes as well as logical and physical attributes), we see a more selective approach:

- Data class or concept level: 42% (21 respondents) document only in priority areas, while 8% (4 respondents) do not document data lineage at all.
- Logical and physical attribute level: While 44% (22 respondents) cover priority areas for both, 'no coverage' rates are higher here, at 20% (10 respondents) for logical attributes and 22% (11 respondents) for physical attributes.

In summary, while high-level lineage documentation is approaching maturity, deeper and more granular documentation is clearly treated as a risk-based exercise, with resources strategically focused on the most critical areas, leading to a more selective and targeted approach for granular data elements.

**Fig. 18 - Level of data lineage documented by banks**



Note: Respondents were asked to choose all categories that apply in this multi-response question.



**Current approaches to using Generative AI in data lineage**

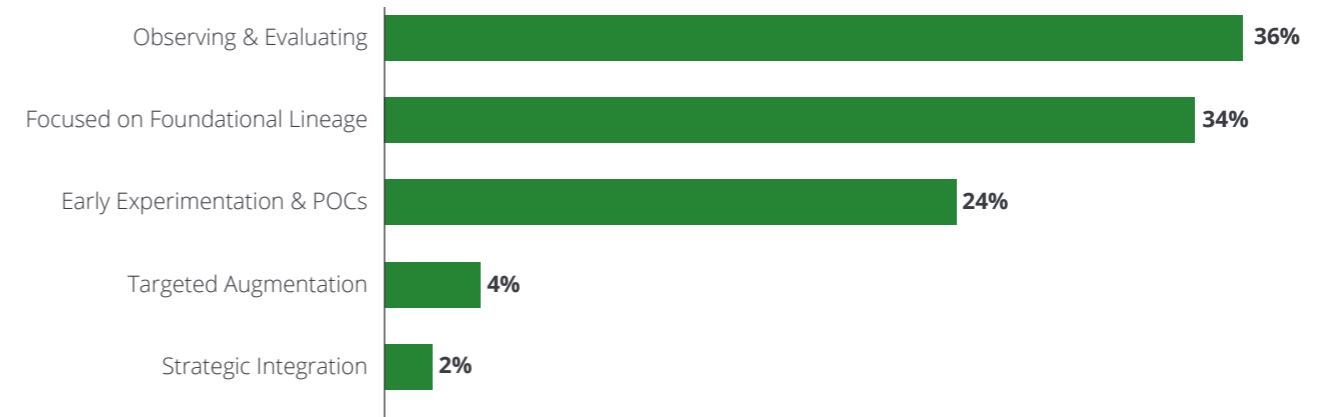
As illustrated in Figure 19, the use of Generative AI (GenAI) for data lineage is at a very early, exploratory stage, and banks are clearly proceeding with caution. Most of the activity is non-committal, with 36% of firms in the 'Observing & evaluating' phase and another 34% focused on 'Foundational lineage'.

Only about a quarter (24%) have moved to active 'Early experimentation & POCs (proofs of concept)'.

A very limited number of banks have adopted more advanced, value adding applications in this area. Although a small minority have started to embrace 'Targeted augmentation' (4%) and 'Strategic integration' (2%), both are still rare. The role of GenAI in data lineage is clearly still in its infancy, with the focus on exploration rather than implementation at scale.

Considering the high level of interest in automating lineage tracking with AI, it is perhaps surprising that so little progress has been made beyond the proof-of-concept phase. Our findings suggest that outdated, legacy technology systems and EUCs are preventing many banks from realising the benefits of this technology.

**Fig. 19 - Maturity of generative AI adoption in data lineage**



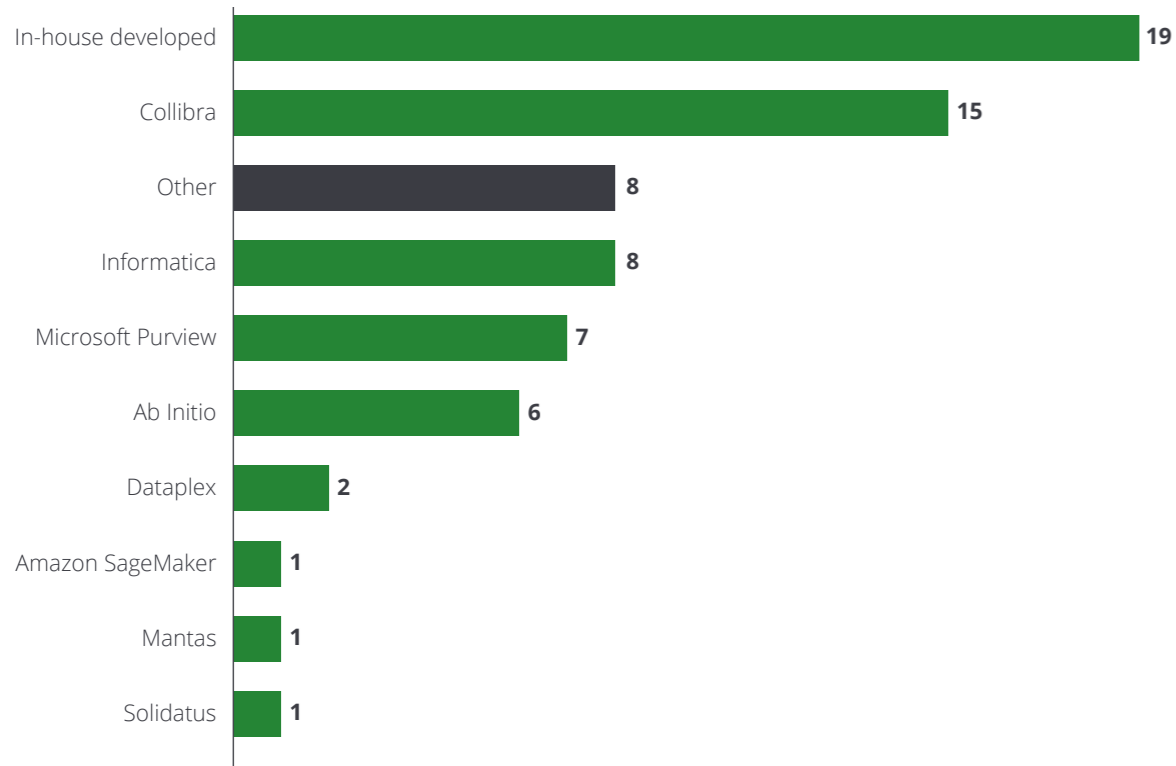
**Tools in the data lineage ecosystem**

In our overview of available data lineage tools (Figure 20), the market appears diverse yet concentrated. Most notably, proprietary in-house tools are the most common solution.

Collibra is the clear leader among the off-the-shelf tools, followed by Informatica and Microsoft Purview. Fewer of our respondents are using other solutions such as Ab Initio, Dataplex, Amazon SageMaker and Mantas.

Our findings show that most respondents either rely on proprietary development or purchase solutions from a small group of market leaders. Several other commercial tools listed in our survey saw no reported adoption. This suggests that banks primarily trust their own bespoke capabilities or established solutions from proven vendors.

**Fig. 20 - Data lineage tool market**



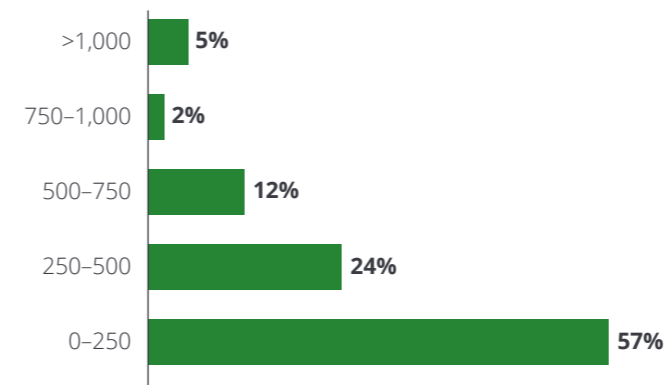
Note: Respondents were asked to choose all categories that apply in this multi-response question.

**End-user computing (EUC) in the data landscape**

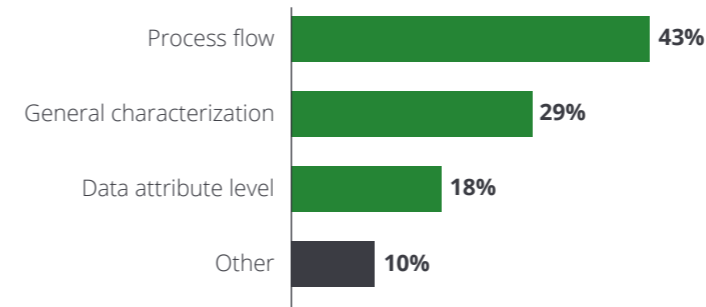
In our analysis of end-user computing solutions (EUCs), we found it concerning that despite their widespread use, most banks do not have rigorous controls in place.

EUCs are everywhere in the data landscape, with most banks reporting several hundred EUCs in their portfolios. At 57%, the largest share of respondents report 0 to 250 EUCs, followed by 24% between 250 and 500. Only a small minority (5%) claim to have more than 1,000 EUCs. Even though these applications are so widely used, data quality remains a major blind spot: A majority of banks (55%) still do not measure the data quality of their EUCs, with only 45% saying they do.

**Fig. 21 - Number of EUCs within BCBS 239/RDARR scope**



**Fig. 23 - EUC coverage in lineage documentation**



This gap in governance is also reflected in the banks' documentation practices. While nearly half of banks (43%) prefer general 'process flows' and another 29% provide a 'general characterization', only 18% ensure granular detail at the 'data attribute level', which is a key requirement for reliable data lineage.

This reflects a heavy dependence on a vast ecosystem of critical tools whose data integrity is largely unverified and whose documentation lacks sufficient depth, leaving a significant body of risk unmanaged.

**Fig. 22 - Is data quality measured for EUCs?**



**Comparative analysis by asset size: >€500bn vs <€500bn**

- **Data lineage levels and definitions:** The findings here are consistent for both asset size groups, indicating a shared understanding and approach to the definition of ‘integrated’ data architecture and the documentation required for data lineage.
- **AI in data lineage:** The majority of both groups are in the “Observing & evaluating” or “Early experimentation & PoCs” phase, with similar numbers in each category. This suggests that GenAI adoption in the field of data lineage is still in its infancy, and that asset size has no real bearing on AI adoption rates.
- **Data lineage tools:** While the use of proprietary tools developed in-house is widespread, there is a slightly higher tendency among smaller banks to rely on specific commercial tools such as Collibra and Ab Initio.
- **Number of EUCs:** As might be expected, larger banks tend to have a higher volume of EUCs within their BCBS 239/RDARR scope, which reflects the more complex nature of their operations.
- **EUC data lineage documentation:** Smaller banks are more likely to document EUC data lineage, particularly at the ‘process flow’ level. Larger banks, while fewer in number, show a slightly higher focus on documentation at the ‘attribute level’.
- **EUC data quality measurement:** There are more smaller banks that measure data quality for EUCs, but also more that do not. This suggests that smaller banks are less consistent in their approach than their larger counterparts.

The basic definitions and general AI adoption trends are consistent across the two groups; where we see some variation is in the practical implementation of integrated data architecture, particularly with regard to EUCs and the use of specific tools. Our findings suggest that larger banks manage a higher volume of EUCs and focus more on documenting them in granular detail. Smaller banks, on the other hand, tend to make more of an effort to document and measure data quality for EUCs, though the results in this group are less consistent.

**Comparative analysis by headquarters (HQ): EU vs non-EU**

- **Shared definition of ‘end-to-end’:** Both EU and non-EU headquartered banks largely agree on the definition of end-to-end lineage as tracing data from the reporting layer back to front-office source systems.
- **Pragmatic approach to documenting data lineage:** Both groups take a pragmatic approach to data lineage documentation, prioritising critical data elements over full coverage, especially at a granular level. This acknowledges the immense effort and resources required for full, attribute-level data lineage.
- **Early-stage AI adoption:** GenAI for data lineage is still in its infancy in both groups, with most banks currently in the observation, evaluation or pilot phase. Full-scale operational use remains rare, suggesting the technology lacks maturity and has yet to gain the enterprise-wide trust required for core governance functions.
- **Tool preferences:** Although both use a mix of commercial and proprietary tools, banks based outside the EU are slightly more likely to rely on solutions developed in-house. This is likely due to the additional demands of operating a global enterprise.
- **EUC management gap:** Both groups struggle to fully document and measure data quality for EUCs, though the deficit is more pronounced among EU headquartered banks. This gap underscores a persistent lack of maturity in EUC governance frameworks.

# Data risk

## Key findings

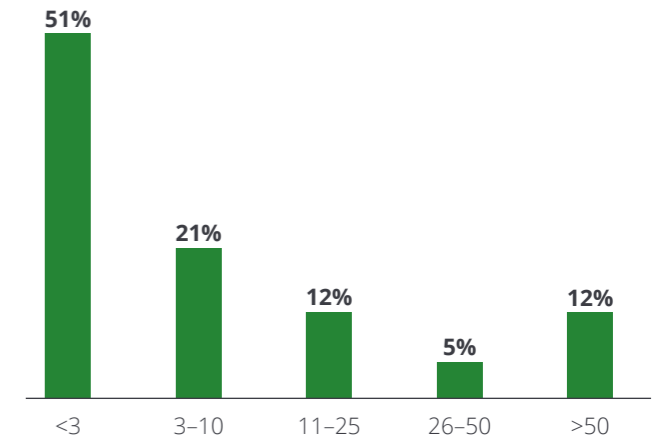
The challenges surrounding data quality, integrity and availability – collectively defined as data risk – have become a pivotal concern for banks. As regulatory expectations, such as those outlined in BCBS 239, grow more stringent, accurate data has become essential for effective risk management and strategic decision-making. In response, we are seeing more and more banks formalise their data quality standards through the use of risk appetite indicators.

Figure 24 shows a clear trend in risk appetite maturity: The majority of banks have defined and operationalised only a relatively small set of indicators within their formal risk appetite frameworks (RAFs) and risk appetite statements (RASs).

A comparison of this year’s results (2026) with those of the previous report (2024) reveals a clear trend towards the increased adoption and formalisation of risk appetite indicators in the area of data quality.

The 2026 data reveals that a majority of banks (51%) currently track fewer than three data quality indicators, while only 12% have scaled beyond 50. This distribution highlights a significant industry-wide inflection point: While most banks are still in the early days of adoption, there is growing momentum toward integrating granular DQ metrics into formal risk frameworks – a critical step in maturing data governance.

**Fig. 24 – Operationalisation of data quality risk appetite metrics (RAF/RAS)**





# Conclusion

## Summary & outlook

The BCBS 239 narrative has fundamentally shifted. What began as a regulatory burden – defined by costly, large-scale remediation – is now recognized as a strategic imperative. Banks are moving beyond a 'compliance-first' mindset toward a model that treats data as a high-value corporate asset.

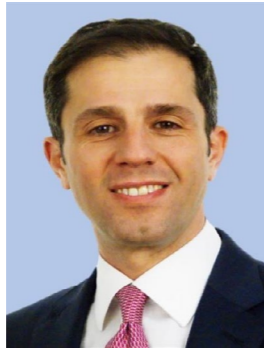
A key driver for this evolution is the recognition that GenAI and emerging technologies are only as effective as their underlying data foundation. With solid returns on the horizon, data governance investments are no longer seen as sunk costs, but as essential building blocks for their digital future.

While significant challenges remain – particularly with regard to the exact scope of application, the required granularity in data lineage documentation and data quality risk – the trajectory is clear. Progress may be slower than supervisors would like, but banks have stopped simply living with these regulations and started to leverage these principles to build a resilient, data-driven enterprise.

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