



cutting through complexity

ADVISORY

Basel Infrastructure Survey 2012

kpmg.com

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Introduction

Financial services institutions are struggling to keep pace with evolving regulatory standards. In the past year alone, new proposals by the Basel Committee on Banking Supervision (BCBS) and U.S. regulators have increased capital requirements and stated minimums for regulatory capital ratio levels. That rising bar comes on top of an already demanding set of compliance needs. In addition to Basel I and II, for instance, banks must address unfolding standards being developed for newer rules and guidance, such as Basel II.5 (Final Market Risk Capital Rule), Basel III and Notices for Proposed Rulemaking (NPRs).

Those changes may hit U.S. institutions especially hard since they have been slower to implement Basel II+ standards than many European and global peers due to uncertainty over the final scope of the rules being crafted. That means conforming existing data management and reporting processes to existing regulations, while staying alert to the impact changing guidelines and a host of domestic regulatory activity might have on those systems.

These factors add to an increasingly complex environment and make for tough management decisions. In choosing where to direct limited financial and human resources, leaders must weigh the need for immediate improvements in cost and process efficiency against the longer-term risk of investing in multiple upgrades as rules and reporting needs change.

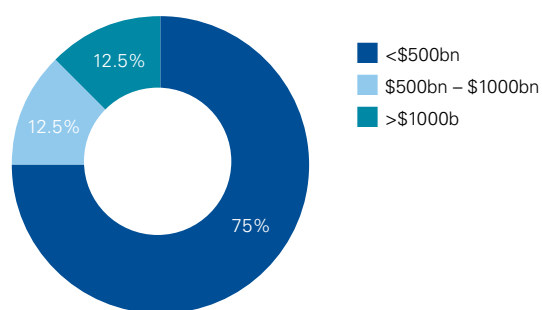
In anticipation of continuing efforts by U.S. financial institutions to implement and further develop their infrastructures, KPMG LLP (KPMG) conducted a Basel Infrastructure Survey to benchmark progress that the financial industry has made to date, and identify some of the key issues encountered. In particular, this survey highlights some of the practical challenges for key elements of infrastructure such as data sourcing and inputs, calculations, and reporting capabilities across various functional and technology groups.

Scope survey and participants

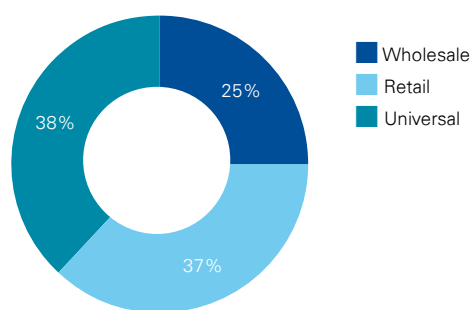
Respondent characteristics

KPMG's Basel Infrastructure Survey, conducted between April and August 2011, polled nearly 25 senior information technology (IT) executives from eight leading financial institutions. Participating banks ranged in size from approximately \$100B to \$2T in balance sheet assets and included a mix of retail, wholesale, and universal institutions. To be eligible for the benchmark, banks had to be based in the United States or, if overseas, maintain significant U.S. banking operations. No attempt was made to use scientific sampling techniques, and as such, the findings may be viewed as directional.

Assets size of participant banks



Segmentation



Total assets as of 09/30/2011.

Source: Federal Financial Institutions Examinations Council (FFIEC).
<http://www.ffiec.gov/nicpubweb/nicweb/top50form.aspx>

Survey questions focused on four major implementation areas:

- The overall Basel compliance process
- Data sourcing and input
- Calculation
- Reporting.



Summary of key findings

The survey examined the key Basel infrastructure challenges across four key areas throughout the survey. Key observations are noted as follows:

Overall Basel reporting progress

- Majority of organizations surveyed have robust Basel II processes
- Ongoing efforts to improve data quality and automate calculations
- Projects to streamline end-user computing and optimize workflow and processes
- Basel II.5 and III estimates pro forma driven, automation projects underway
- Some banks must address new and multiple sets of rules and regulations.

Data sourcing and input

- Inconsistent processes across business segments and products
- Data attributes required for capital calculations missing or insufficient granularity
- Upstream data integrity challenges introduces complexity into workflows
- Accountability and “ownership” of data sourcing across organizations key challenge.

Calculation

- Multiple systems and tools used for performing calculations remain segregated
- Opportunities exist to revisit use of proxies and simplifying assumptions
- Capturing full netting benefits dependent on remediating some data quality issues.

Reporting

- Many banks rely on time-consuming manual solutions for reporting purposes
- Appetite for more frequent reporting stresses infrastructure and staff capacity
- Filings to external regulators differs from internal reporting requirements
- Struggle between risk and finance functions for ownership of segment reporting.



Survey results

Survey results indicate that many U.S. banks are taking partial steps to address the anticipated changes rather than full-scale revision to processes, systems, and governance structures. Moreover, many infrastructure implementations continue to evolve in both scope and approach for implementing various regulatory requirements. Results suggest that banks are waiting for final U.S. rules before taking substantial action to apply a holistic automated solution for capital and governance processes promulgated through international regulatory guidance.

Survey results revealed insights from 20 summary questions on the current state of Basel infrastructure implementations used for risk measurement management and the regulatory capital environment. The results are organized across four key implementation issues as follows throughout the survey:

I. Overall Basel compliance process

II. Data sourcing and input

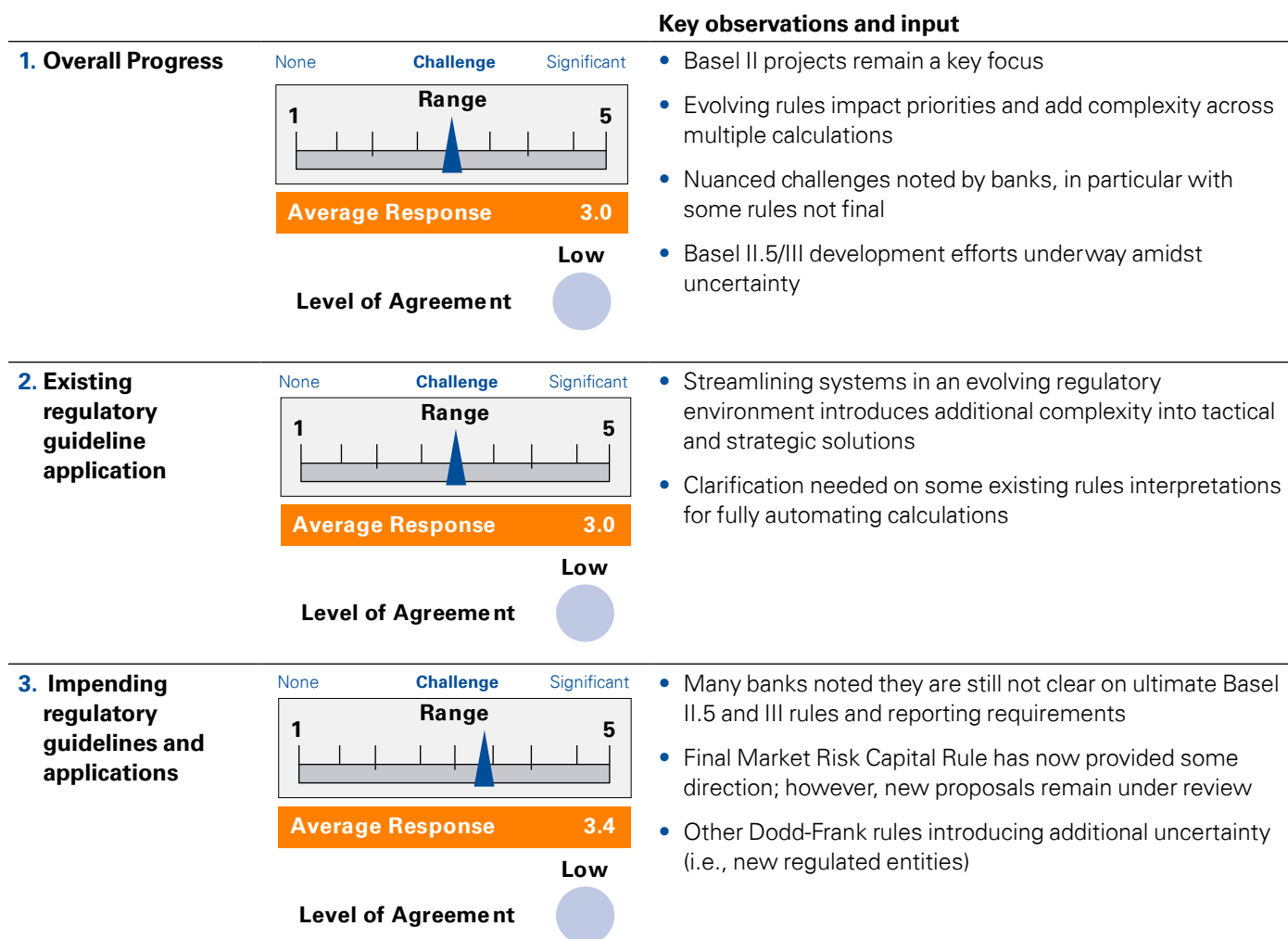
III. Calculation

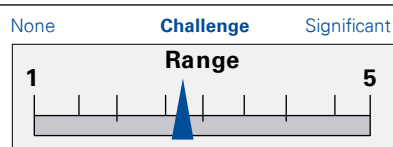
IV. Reporting

I. Overall Basel Compliance Process

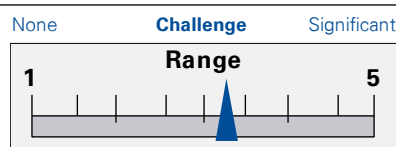
Results Legend:

▲ All Participants ● High (Std Dev < 0.5) ● Medium (Std Dev > 0.5 & < 1) ● Low (Std Dev > 1)

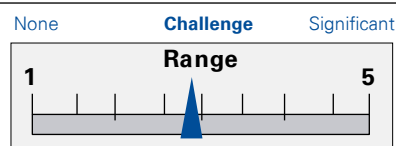


Key observations and input**4. Internal Organization structure**Average Response **2.7****Low****Level of Agreement**

- Business segment reporting and capital attribution needs input of multiple groups
- Healthy tensions between finance and risk on group best positioned for reporting (i.e., authority on input details vs. overall reporting)

5. Personnel staffingAverage Response **3.3****Low****Level of Agreement**

- Resources with regulatory skills and experience in high demand
- Manual solutions require higher levels of resources to maintain
- Implementation projects require higher percentage of resources than day-to-day business

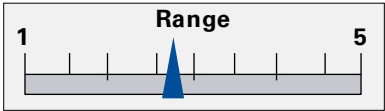
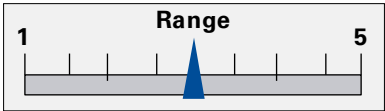
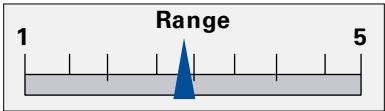
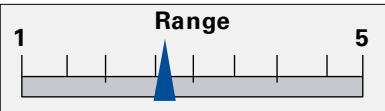
6. Knowledge sharingAverage Response **2.9****Low****Level of Agreement**

- Expertise for different components of calculations and reporting maintained in different groups
- Establishing guiding principles identified as best practice for managing dependencies

II. Data Sourcing and Input

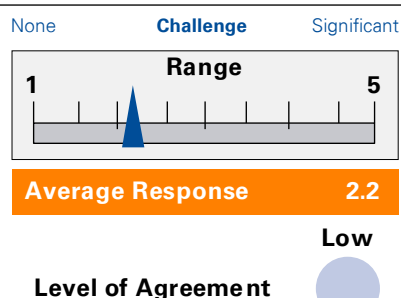
Results Legend:

▲ All Participants ● High (Std Dev < 0.5) ● Medium (Std Dev > 0.5 & < 1) ● Low (Std Dev > 1)

		Key observations and input
1. Data Sourcing	<p>None Challenge Significant</p>  <p>Average Response 2.7</p> <p>Low</p> <p>Level of Agreement ●</p>	<ul style="list-style-type: none"> Legacy flows inconsistent Data attributes sometimes missing or insufficiently granular Reference data not verified Accountability of data controls Mapping issues across systems
2. Data Availability	<p>None Challenge Significant</p>  <p>Average Response 3.0</p> <p>Low</p> <p>Level of Agreement ●</p>	<ul style="list-style-type: none"> Data processing by other groups delays availability Some attributes not maintained with high quality New logic revisions inconsistent for old business dates
3. Data Verification	<p>None Challenge Significant</p>  <p>Average Response 2.9</p> <p>Medium</p> <p>Level of Agreement ●</p>	<ul style="list-style-type: none"> Reference data not always verified when upstream users not aware of downstream needs Common data identifiers across groups not always defined Some groups speak different "language" in resolving issues
4. Data Warehousing	<p>None Challenge Significant</p>  <p>Average Response 2.6</p> <p>Medium</p> <p>Level of Agreement ●</p>	<ul style="list-style-type: none"> Tactical solutions are still in place due to time/resource constraints Large data volumes challenge processing capacity at times Strategic storage solution needed across common populations reported under different reports/exams

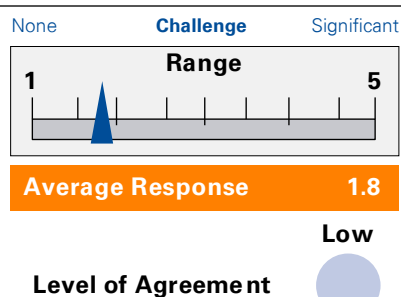
Key observations and input

5. Data Security



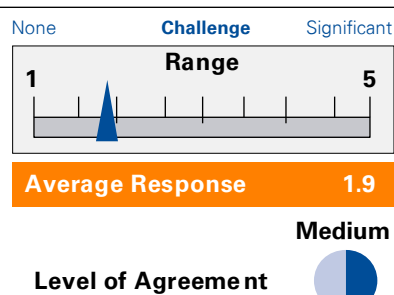
- Continued need to restrict sensitive data inputs like internal credit ratings
- Manual nature of some calculations inhibits data security controls
- Appropriate entitlements needed across adjustment approval workflows in systems

6. Data archiving and retention



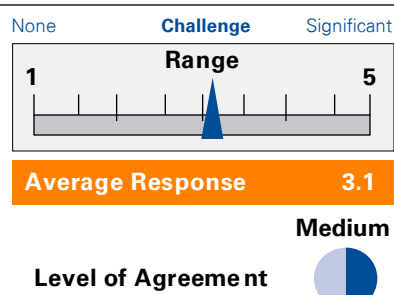
- Large volume of historical data needs to be stored for many modeled calculations and inputs into these calculations
- Sufficiently archiving reference data to reproduce calculations

7. New products



- Processes must consider identification of new products in tactical and strategic population identification
- Potential for inconsistent processes across regulatory, risk, and finance functions

8. Reconciliations

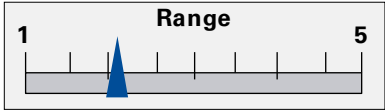

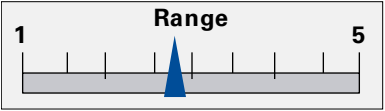

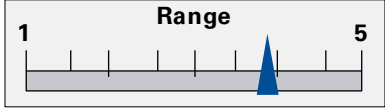



- Multiple reconciliations required (gross/net calculations and reporting)
- Level of granularity not always consistent (e.g., "leaf level" vs. position level portfolios)
- Defining scope and frequency of reconciliations subjective process

III. Calculation

Results Legend:

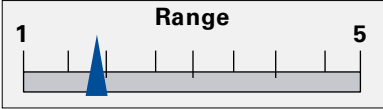
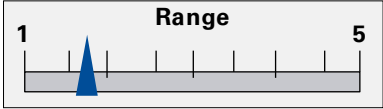
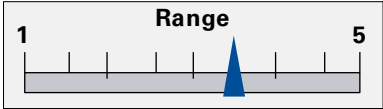
▲ All Participants ● High (Std Dev < 0.5) ● Medium (Std Dev > 0.5 & < 1) ● Low (Std Dev > 1)

		Key observations and input
1. Calculation Implementation	<p>None Challenge Significant</p>  <p>Average Response 2.1</p> <p>Low</p> <p>Level of Agreement</p> 	<ul style="list-style-type: none"> Poor data quality creates some challenges for implementing calculations consist with policies Multiple regulatory calculations introduces complexity into flows Netting optimization requires consistent data across systems/flows
2. Calculation optimization opportunities from infrastructure	<p>None Challenge Significant</p>  <p>Average Response 2.7</p> <p>Medium</p> <p>Level of Agreement</p> 	<ul style="list-style-type: none"> Basel infrastructure noted as a moderate driver of capital optimization opportunity Basel infrastructure and data quality expected to play a larger role in capital optimization efforts for newer regulations such as Basel II.5 and III (penalizing haircuts)
3. Infrastructure flexibility to accommodate calculation changes	<p>None Challenge Significant</p>  <p>Average Response 3.9</p> <p>High</p> <p>Level of Agreement</p> 	<ul style="list-style-type: none"> Some banks noted need to accommodate rules from multiple regulators driving need for additional systems flexibility Need for multiple calculations across regulated entities noted to introduce additional complexity into calculation engines

IV. Reporting

Results Legend:

▲ All Participants ● High (Std Dev < 0.5) ● Medium (Std Dev > 0.5 & < 1) ● Low (Std Dev > 1)

		Key observations and input
1. Reporting	<p>None Challenge Significant</p>  <p>Average Response 1.9</p> <p>Level of Agreement High</p>	<ul style="list-style-type: none"> Manual reporting common Regulatory and management reporting format inconsistent Frequency of management reporting increasing Capturing adjustments with controlled transparency Focus on capital attribution
2. Reporting frequency (external and internal)	<p>None Challenge Significant</p>  <p>Average Response 1.7</p> <p>Level of Agreement Medium</p>	<ul style="list-style-type: none"> Predominant quarterly regulatory reporting for external purposes Daily, weekly, and monthly internal processes noted Dependency on monthly processes introduces stale inputs for more frequent reporting
3. Reporting workflow	<p>None Challenge Significant</p>  <p>Average Response 3.5</p> <p>Level of Agreement Low</p>	<ul style="list-style-type: none"> Manual solutions common Reconciliation processes take substantial efforts Calculation dependencies introduces complexity Insufficient transparency into some reporting across groups

Conclusion

As banking legislation continues to transform, financial institutions should expect to see continued scope change and will continue to invest substantial resources into implementation projects for their Basel programs. This evolving regulatory landscape will present challenges and opportunities to Basel infrastructure programs.

Some difficulties may include additional complexity and redundancy into some infrastructures as banks consolidate and streamline Basel infrastructures in to support multiple Basel calculations based on legacy flows and systems.

Basel infrastructure projects could also face the increasing reliance and dependencies on data across groups and from upstream sources that may continue to challenge automation projects relying on quality and controlled input data.

Advancements in Basel infrastructure can also lead to greater efficiencies and more accurate business reporting. Transparency into calculations and capturing adjustments, exceptions, and approval flows can be achieved as workflow and reporting capabilities continue to gain focus. Also, the incorporation of additional automation tools to support day-over-day analysis capabilities can be expected to realize time savings and mitigate calculation risk over traditional, manual reporting. In addition, further integration of Basel strategic capital architectures for regulatory reporting with other risk and financial reporting functions can lead to help management gain an enterprise view of data populations and elements.

As financial services strive to manage risk and capital in a more accurate, effective, and efficient manner in a dynamic regulatory environment, banks can take steps now to evaluate and adjust the necessary investments in budget, resources, and time to make strategic decisions that will enhance their Basel infrastructure.

215	876	234	113	215	876
745	345	34	216	745	345
465	890	312	906	321	145



34	113	215	876	234	113	215	876
34	216	745	345	34	216	745	345
657	410	465	890	312	906	321	145
1233	432	987	523	412	234	753	1236
987	523	412	876	978	432	709	2315
234	113	215	345	234	113	215	876
34	216	745	890	34	216	745	345
657	410	465	523	312	906	321	145
1233	432	987	876	412	234	753	1236
987	523	412	345	978	432	709	2315
234	113	215	890	234	113	215	876
34	216	745	523	34	216	745	345
657	410	465	978	312	906	321	145
1233	432	987	234	412	234	753	1236
987	523	412	876	978	432	709	2315
234	113	215	345	234	113	215	876
34	216	745	890	34	216	745	345
657	410	465	523	312	906	321	145
1233	432	987	876	412	234	753	1236
987	523	412	345	978	432	709	2315

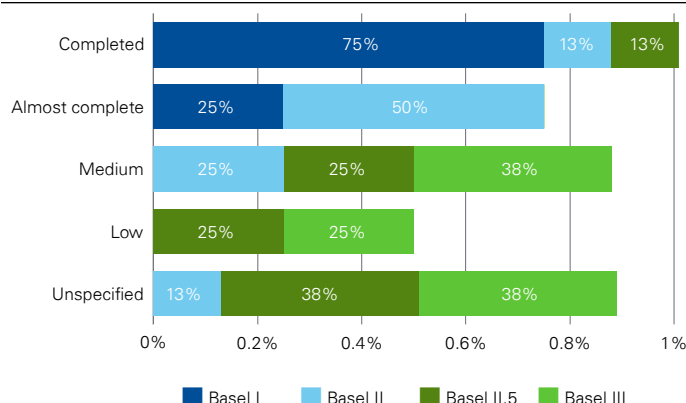
Appendix

The following section takes a closer look at a sampling of survey questions and their responses. The detailed results are organized across the four key Basel infrastructure implementation issues examined in the survey.

I. Overall Basel Compliance Process

Progress in establishing infrastructure

Q. How would you rate your bank's progress in establishing a formal infrastructure for Basel reporting?

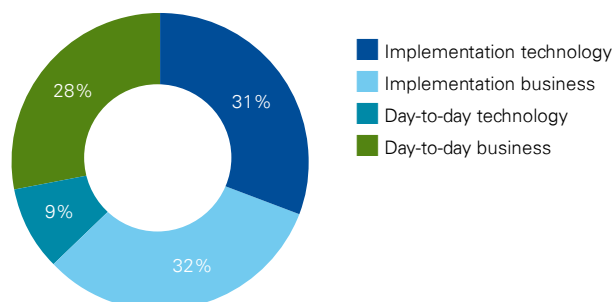


Key observations and input

- Basel II projects remain a key focus
- Variety of potential gaps noted across sourcing, calculation, and reporting
- Evolving rules impact priorities and add complexity across multiple calculations
- Nuanced challenges noted by banks, in particular with some rules not final
- Basel II.5 and III development underway

Average ratio of people involved in Basel Implementation

Q. How many people within your bank are working on Basel reporting projects?

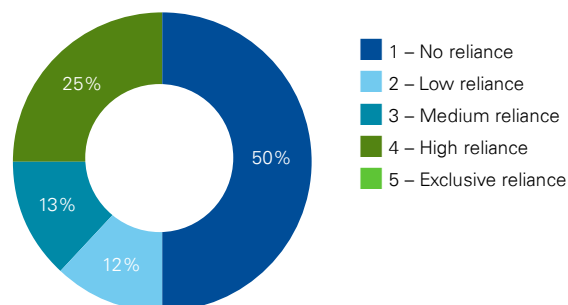


Key observations and input

- Total number of people involved in Basel programs varies significantly by institution (balance sheet size most influential factor)
- However, average resource level ratios across noted project role categories generally consistent (see chart)
- Substantial percentage of business and technology resources needed for project implementation periods
- Level of manual end-user computing driving large ratio of day-to-day business resources needed for Basel programs

Reliance on external resources for Basel II reporting

Q. To what extent does your bank rely on external resources for Basel reporting?

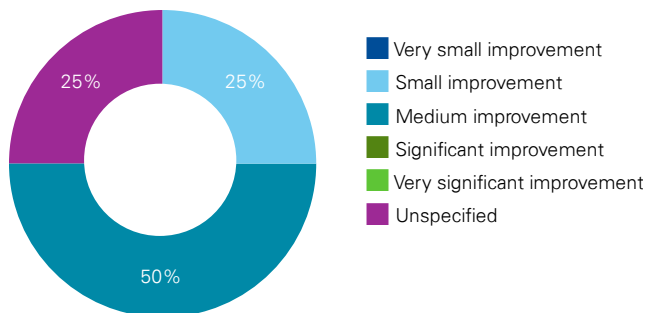


Key observations and input

- Majority of the participants consider minimal reliance on external resources
- Organizations implementing vendor solutions generally noted higher reliance on external vendors and advisors
- While vendor solutions play a role in some Basel II implementations, most programs are implementing internal systems or an integrated hybrid approach

Infrastructure improvement levels related to capital charge calculation

Q. To what extent can infrastructure improvements optimize your bank's capital charge calculation process?



Key observations and input

- Basel infrastructure noted as a moderate driver of capital optimization opportunity
- However, quarter of bank participants did not respond suggesting they are not yet in a position to quantify such benefits
- Basel infrastructure and data quality expected to play a larger role in capital optimization efforts for newer regulations such as Basel II.5 and III (penalizing haircuts)

II. Data sourcing and input

Centralization and automation of input data storage infrastructure related to market risk

Q. How would you best describe the degree of centralization and automation of your bank's input data storage infrastructure as they relate to market risk?

Market Risk

Centralization	Automation				
	Very Low	Low	Medium	High	Very High
Very Low					
Low		13%			
Medium					
High				38%	
Very High				25%	

Key observations and input

- Banks generally maintain a high degree of centrally automated Market Risk (MR) infrastructures
- Not all participants able to assess their MR data storage
- Some mapping and granularity challenges noted for interfaces across groups

Centralization and automation of input data storage infrastructure related to credit risk

Q. How would you best describe the degree of centralization and automation of your bank's input data storage infrastructure as they relate to credit risk?

Credit Risk

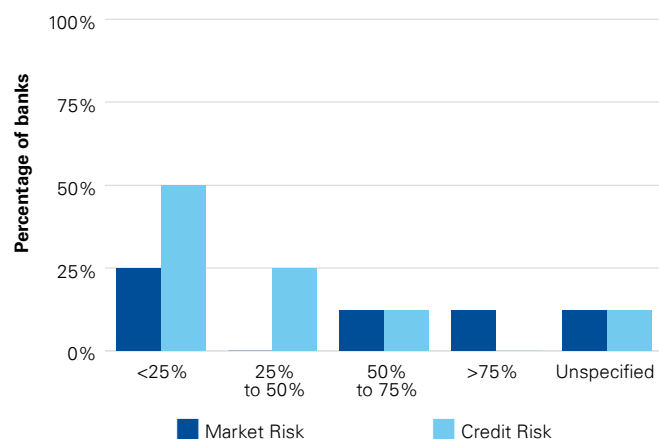
Centralization	Automation				
	Very Low	Low	Medium	High	Very High
Very Low					
Low					
Medium					
High				25%	
Very High				50%	

Key observations and input

- Banks generally maintain a high degree of centrally automated Credit Risk (CR) infrastructures
- Not all participants able to assess their CR data storage
- Some banks noted that retail segments of data storage not nearly as centralized
- Some mapping and granularity challenges noted for interfaces across groups

Level of manual reconciliations

Q. What percentage of reconciliations are performed manually outside of systems?

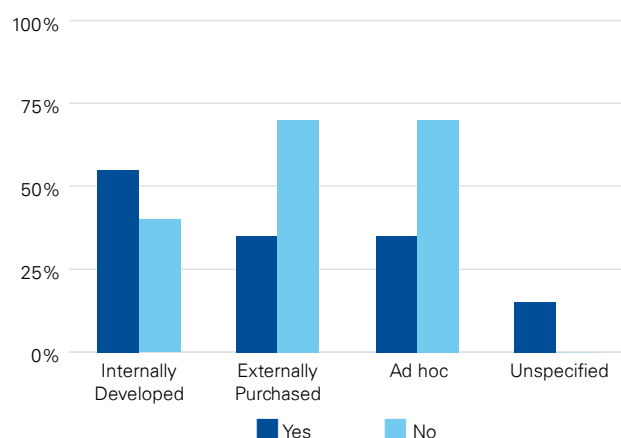


Key observations and input

- Market risk reconciliations are somewhat less automated than credit risk processes
- Reconciliations noted as an ongoing challenge as more granular data requirements evolve, and data sourcing consistency needed across groups for various regulatory reports
- Unspecified assumed that the question is not applicable to the bank or no answer was provided

Types of systems/tools used for reconciliation between Basel and financial statements

Q. Which types of reconciliation tools are used between Basel compliant reports and financial statements?



Key observations and input

- Most banks indicated an internally developed system for reconciliations
- Ad hoc solutions using manual end-user computing continue to drive many reconciliation processes
- Some noted vendor systems used for reconciliations include: SAS Risk Management for Banking application, SunGard Basel II Capital Manager, Oracle Reveleus Basel II Solution, Axiom, and FinArch (in no particular order)

Completeness and automation of reconciliation process related to market risk

Q. How would you best describe the degree of completeness and automation of your bank's reconciliation process as they relate to market risk?

Market Risk					
Completeness	Automation				
	Very Low	Low	Medium	High	Very High
Very Low		13%			
Low					
Medium					
High			13%	25%	
Very High				25%	

Key observations and input

- Banks generally maintain a high degree of complete automated MR reconciliations
- Not all participants are able to assess their MR reconciliations
- Some banks noted that retail segments of reconciliations are not nearly as automated or complete
- Some mapping and granularity challenges noted for interfaces across groups (e.g., leaf level granularity for structured trades)

Completeness and automation of reconciliation process related to credit risk

Q. How would you best describe the degree of completeness and automation of your bank's reconciliation process as they relate to credit risk?

Credit Risk

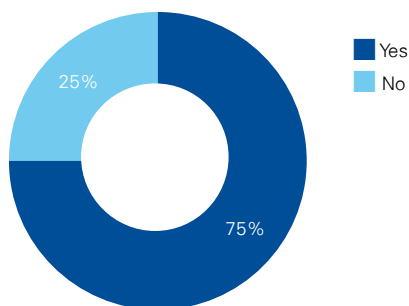
Centralization	Automation				
	Very Low	Low	Medium	High	Very High
Very Low					
Low					
Medium		13%	13%		
High			13%	25%	13%
Very High					

Key observations and input

- Banks generally maintain a high degree of completeness, but some variance in level of automation of their CR reconciliation processes
- Not all participants are able to assess their CR reconciliations
- Some banks noted that retail segments of reconciliations are not nearly as automated or complete

Data classification issues

Q. Are there any classification issues (e.g., retail, wholesale, securitizations, etc.)?

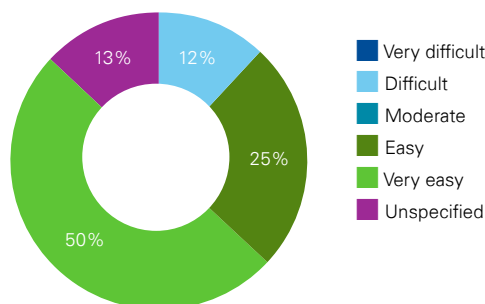


Key observations and input

- Data classification issues noted in some instances, in particular for securitization products for majority of banks participating in survey (e.g., U.S. GAAP data tags vs. regulatory definitions of same populations)
- Classification challenges driven by both subjective rules interpretations and quality and consistency of reference data (e.g., retail underliers)
- Evolving rules expected to be increasingly onerous (i.e., data quality classification issues increase charges)

Access to detailed trade attributes

Q. To what extent can you access all detailed trade attributes required for reporting?



Key observations and input

- Majority of the respondents were highly confident regarding access to the detailed trade attributes
- However, noted increasing level of granularity needed for detailed trade attributes not historically needed downstream under new Basel rules
- New and more granular "risk attributes" expected to continue to drive data quality, consistency, ownership, and control issues

Completeness and accuracy of collateral information

Q. How would you best describe the degree of completeness and correctness of the collateral information available in your bank's systems?

Collateral Information

Completeness	Correctness				
	Very Low	Low	Medium	High	Very High
Very Low					
Low					
Medium			25%		
High				50%	
Very High				13%	

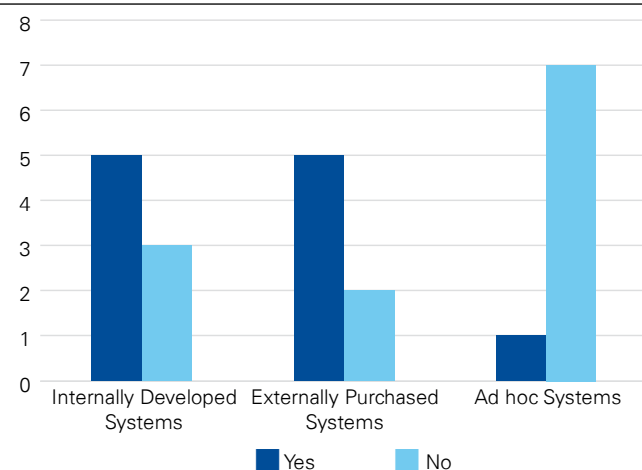
Key observations and input

- Completeness and correctness generally perceived as high quality for participants collateral information
- Medium level for some banks noted improvement opportunities exist
- In one case, information was not available or understood

III. Calculation

Types of systems/tools used for calculation of capital charges

Q. What types of systems or tools do you use for the calculation of capital charges?

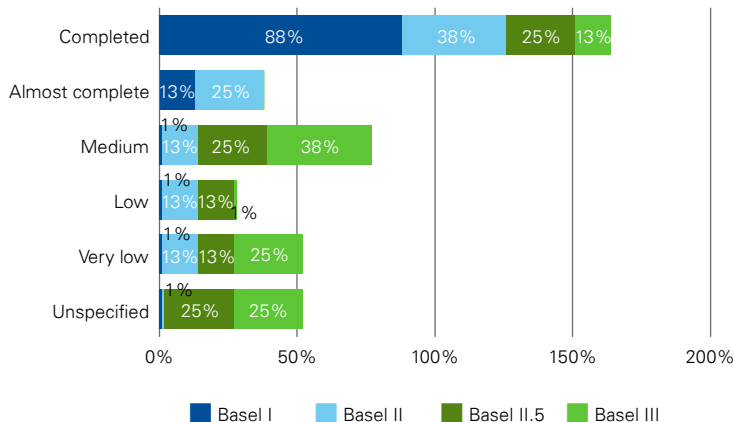


Key observations and input

- Responses of the participants in this question were not mutually exclusive
- Most participants use combination of automated and manual solutions
- For many banks, solutions include both internally and externally developed engines
- Some noted vendor systems for calculations: SunGard Basel II Capital Manager, Oracle Reveleus Basel II Solution, Axiom, Algorithmics, and FinArch (in no particular order)

Progress in establishing a formal calculation process

Q. How would you rate your bank's progress in establishing a calculation process for each Basel rule?

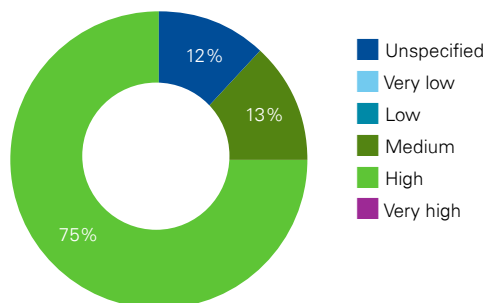


Key observations and input

- Basel II calculation automation remains a key focus, along with newer rules
- Developing more robust capabilities to analyze day-over-day variances noted, and drill down into calculation details
- Capturing adjustments in a transparent and through automated workflows not always possible. Some very transparent and automated leading practices noted for adjustments approval workflows
- Nuanced interpretation challenges noted by some banks, in particular where some rules not yet finalized or clarifications needed requires flexible systems

Level of flexibility of the calculation system to accommodate regulation changes

Q. How flexible is the calculating system in accommodating regulation changes?



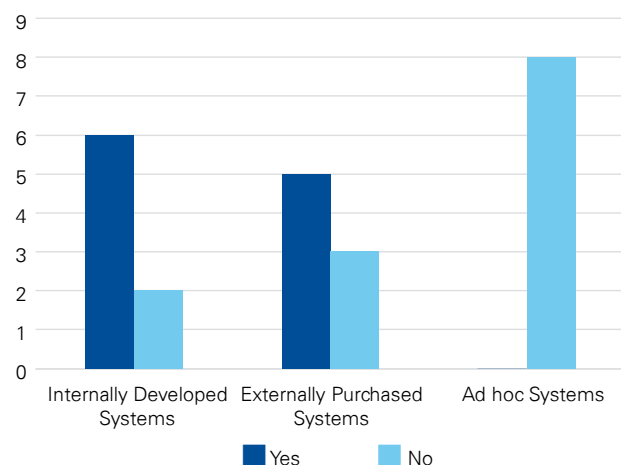
Key observations and input

- Flexibility to accommodate new and evolving rules in calculations
- Some banks noted need to accommodate rules from multiple regulators driving need for additional systems flexibility
- Need for multiple calculations across regulated entities noted to introduce additional complexity into calculation engines
- Opportunities noted to revisit use of proxies and simplifying assumptions within calculation implementation approaches

IV. Reporting

Types of systems used for Basel II reporting

Q. Which types of systems or tools do you use for generating Basel II regulatory and management reports?

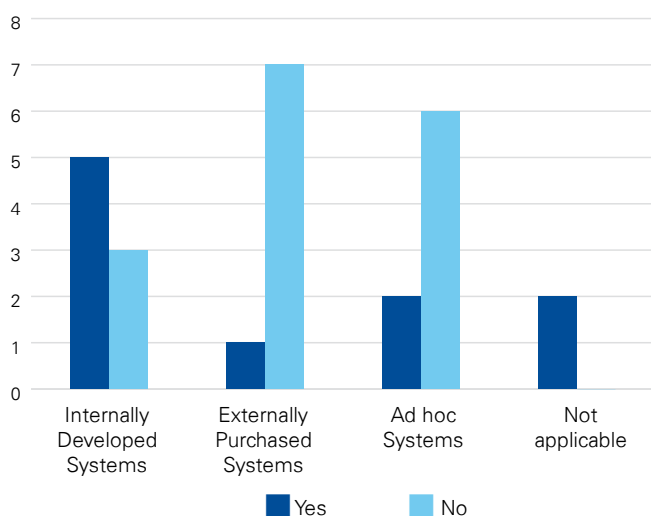


Key observations and input

- Banks still rely on a high level of manual and internally automated reporting solutions
- Several banks building reporting repositories using external vendors, however, rely on internal solutions for management reporting and workflows
- Management reporting needs sometimes inconsistent with regulatory reporting requirements, driving additional workflow complexity

Types of systems used for Basel II.5 reporting

Q. Which types of systems or tools do you use for generating Basel II.5 regulatory and management reports?

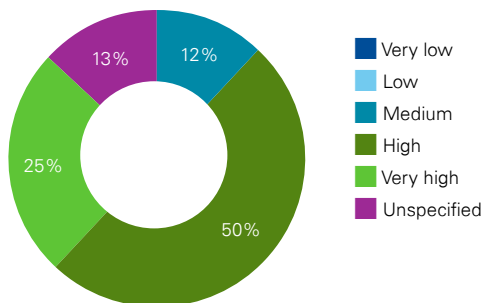


Key observations and input

- For Basel II.5, most banks still using ad hoc or internally developed applications with U.S. rules not final
- Additionally, many banks noted they are still not clear on ultimate Basel II.5 reporting requirements which could drive additional disclosures and introduce workflow complexity

Level of satisfaction with management reporting capabilities of the tool

Q. How satisfied are you with the management reporting functionality of the tool?

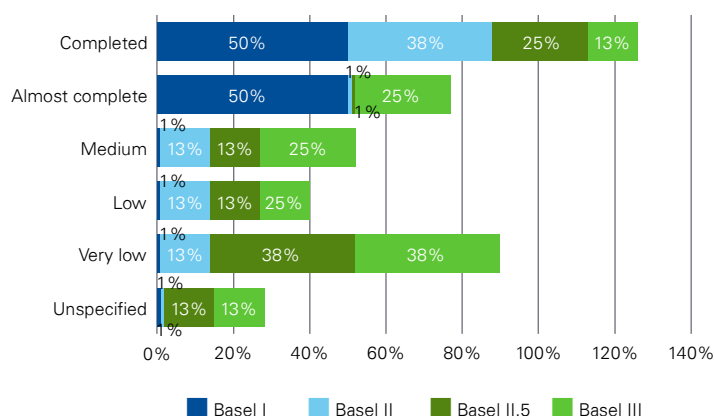


Key observations and input

- Management reporting noted as at least a high level of sufficiency for majority of banks participating
- Some improvement opportunities noted, in particular around capital attribution capabilities as business segment reporting gaining importance
- Several banks noted increased reporting frequency requested by management with downward pressure on capital ratios

Progress in establishing a formal reporting process

Q. How would you rate your bank's progress in establishing a formal reporting process for each Basel calculation?



Key observations and input

- Basel II calculation automation remains a key focus, along with newer rules
- Development of tools to enhance reporting integrity underway as a leading practices (e.g., exception reporting for key reference data and questionable inputs into calculations)
- Capturing adjustments in a transparent and controlled manner through automated approval chains noted as a leading practices among participants



Contact us

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