

Trends internazionali in ambito BCBS239

Luca D'Amico
Director, Italy
luca.damico@moodys.com

ABI Associazione
Bancaria
Italiana

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MOODY'S

Leader mondiale di rating creditizi, ricerca fondamentale e strumenti per misurare e monitorare il rischio

MOODY'S INVESTORS SERVICE

Società indipendente di rating creditizi e relative informazioni da oltre 100 anni

MOODY'S ANALYTICS

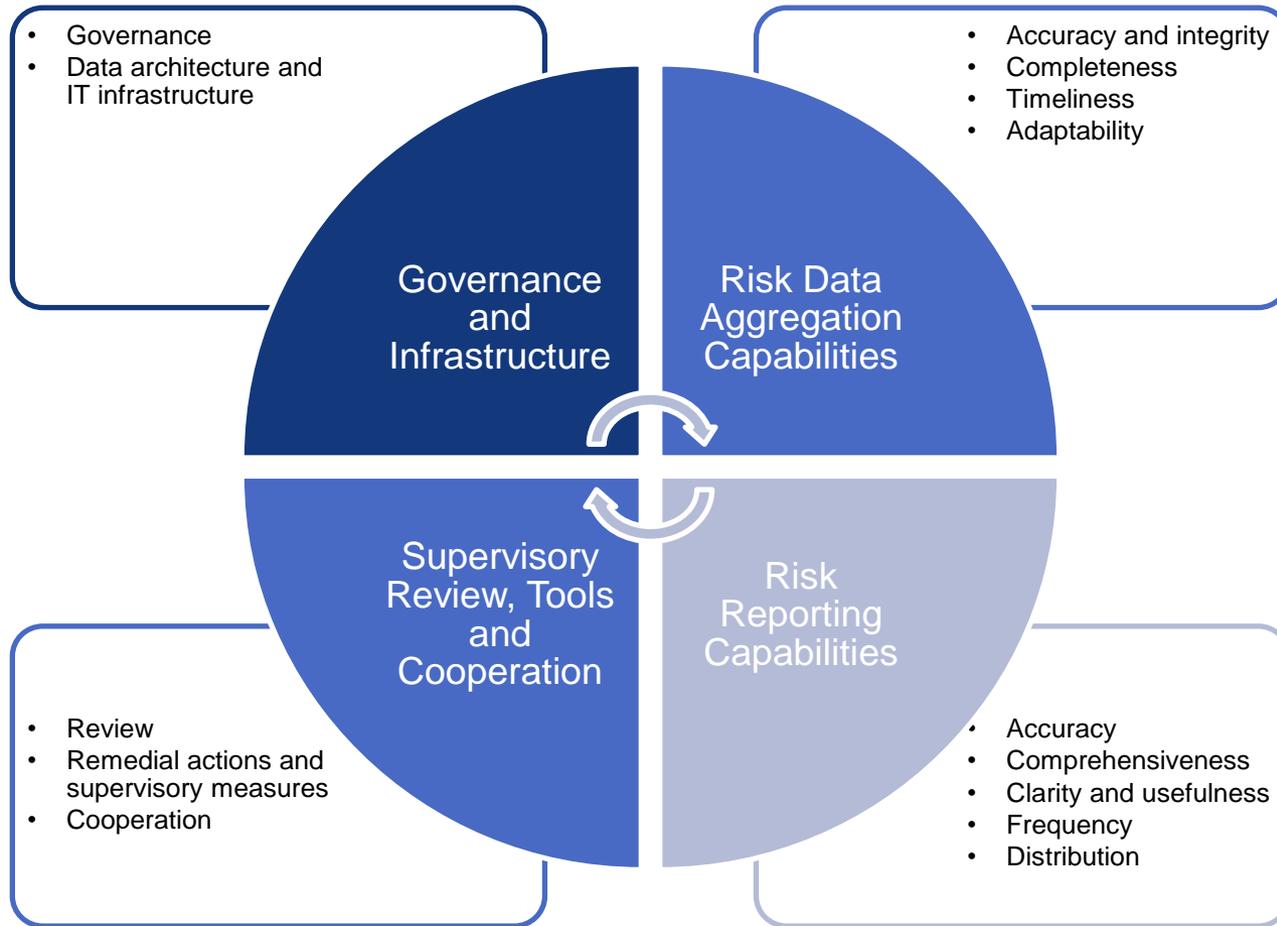
Ricerca, dati, software, modelli, consulenza, e soluzioni a supporto della gestione del rischio

Moody's Analytics opera in completa indipendenza dalle attività di rating di Moody's Investors Service. In questa presentazione non sarà fatto alcun commento su rating o potenziali cambiamenti di rating. Nessuna analisi o opinione espressa in questa presentazione riflette quelle dell'agenzia di rating.

Introduzione: Infrastruttura IT Risk frammentata

- Vari fattori hanno portato nel tempo a una infrastruttura IT di Risk Management frammentata:
 - **Scelte finanziarie di breve periodo** e riduzioni di budget per i progetti di miglioramento della infrastruttura IT.
 - **Deboli processi di data governance e assenza di un framework firm wide** di data management hanno generato incoerenze tra linee di business.
 - Fusioni e acquisizioni hanno aumentato il numero di **legacy systems**, spesso ciascuno con le proprie tassonomie, il che ha reso difficile l'aggregazione tra prodotti e linee di business.
 - **Disaccordo** tra linee di business e IT management sulla strategia di lungo periodo.
- Questa frammentazione dei sistemi spesso ha giustificato l'uso di molti **processi manuali** per aggregare i dati firm wide.
- I regulators hanno identificato nel debole data management una delle cause che ha accelerato la crisi finanziaria.

BCBS239: 14 principi di risk data aggregation e reporting



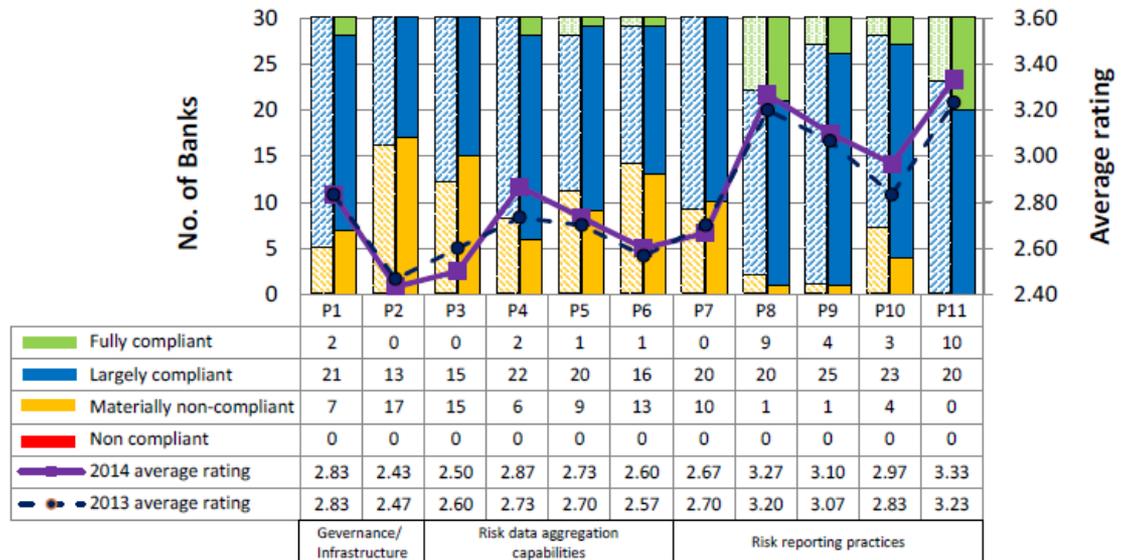
Source: Basel Committee on Banking Supervision, 2013 (BCBS 239)

Prima della BCBS239: le debolezze delle banche

In occasione della survey del 2014 molte banche avevano confermato grosse difficoltà di “data aggregation governance, architecture and processes” e che facevano ancora affidamento a workarounds manuali.

Molte di queste banche non si erano rese conto che i principi di governance/infrastruttura erano prerequisiti per la compliance agli altri principi .

Self assessment ratings by Principles

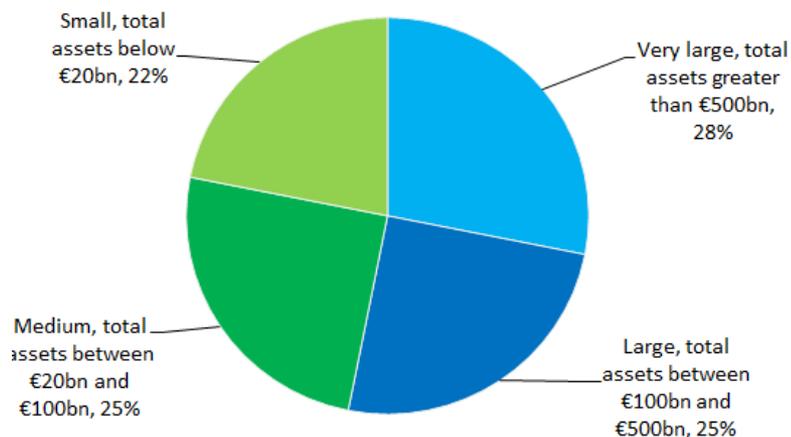


Source: Basel Committee on Banking Supervision, 2015 (BCBS 308)

Moody's Analytics BCBS 239 Survey

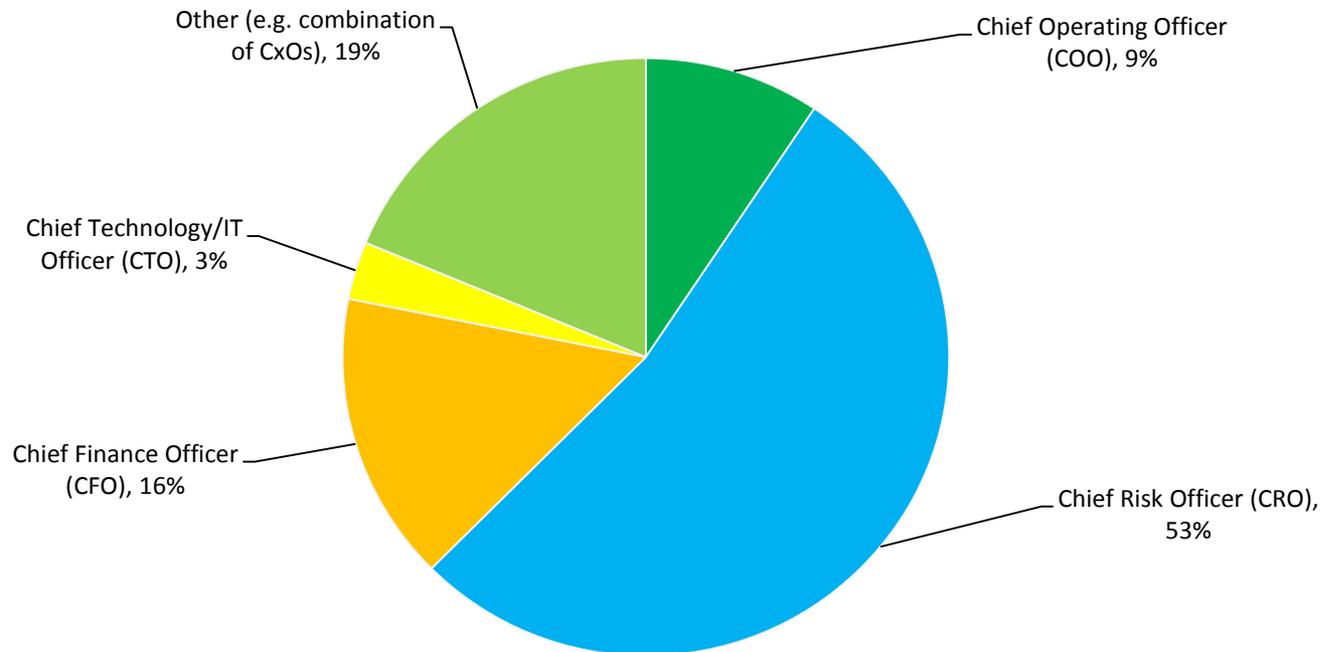
Obiettivo è stato identificare:

- Responsabilità all'interno della banca
- Principali sfide implementative
- Costi di implementazione

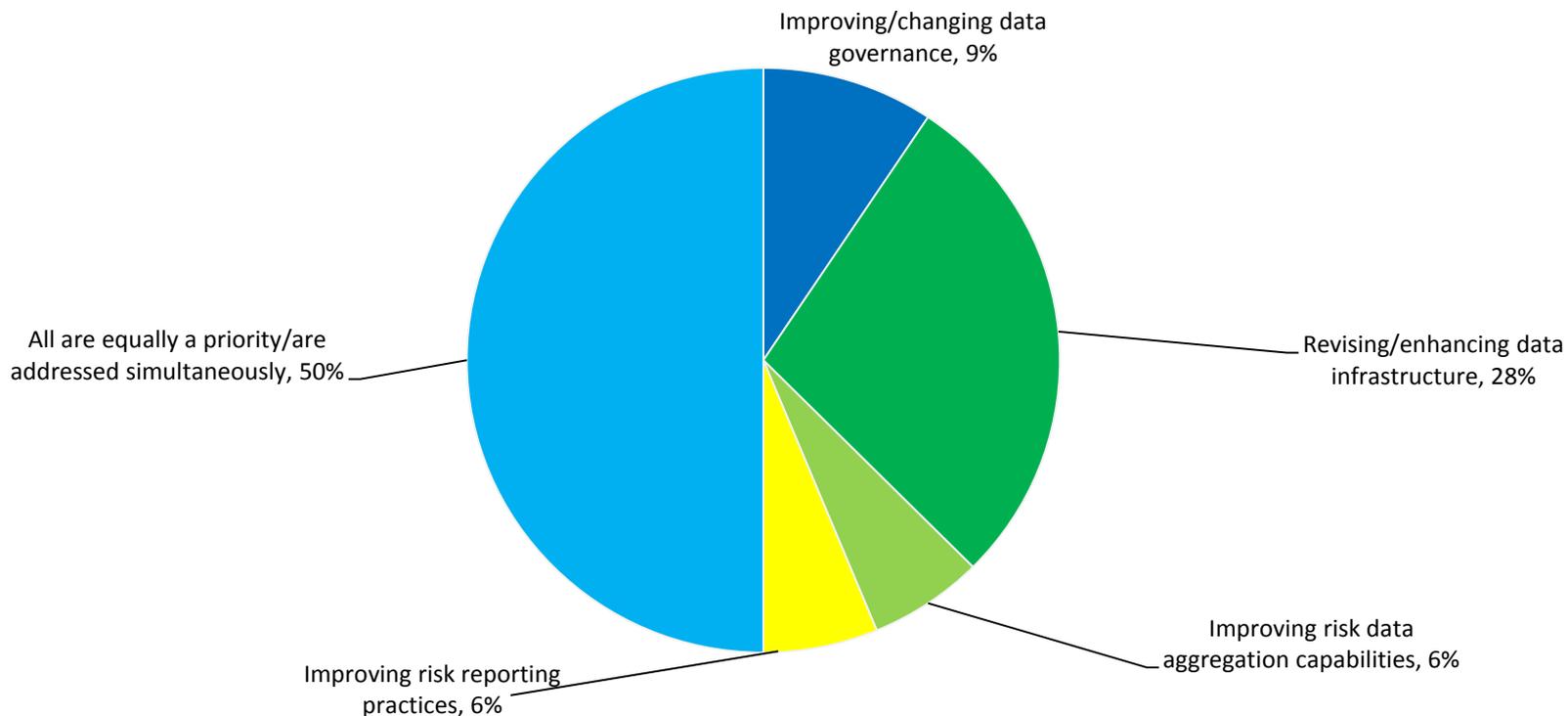


| Country | Share |
|----------------------|-------|
| Austria | 14% |
| Belgium | 4% |
| France | 7% |
| Germany | 36% |
| Greece | 7% |
| Italy | 4% |
| Netherlands | 11% |
| Switzerland | 4% |
| United Arab Emirates | 4% |
| United Kingdom | 11% |

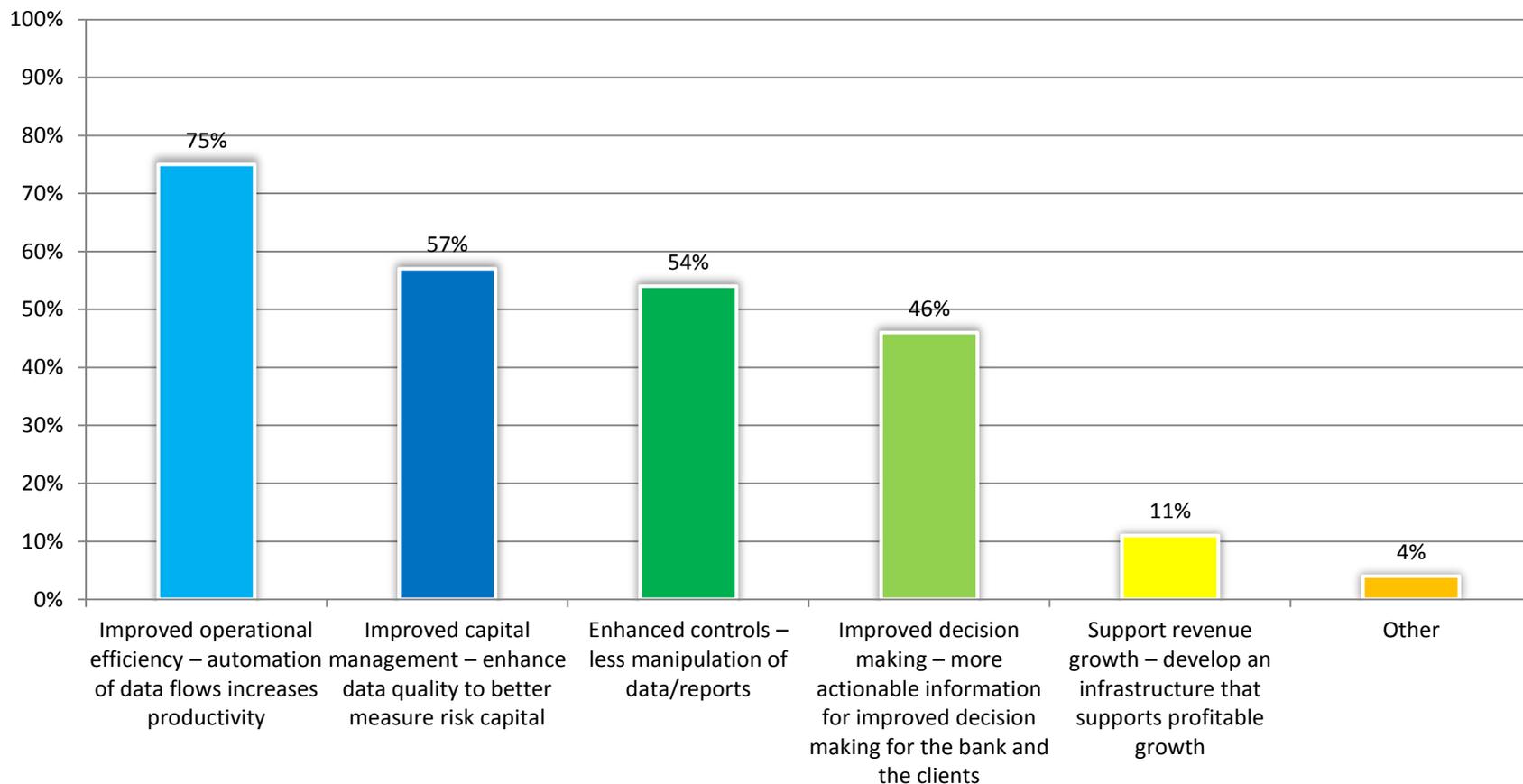
Chi è il responsabile del programma BCBS 239 ?



A quale parte del progetto BCBS 239 è stata data priorità ?

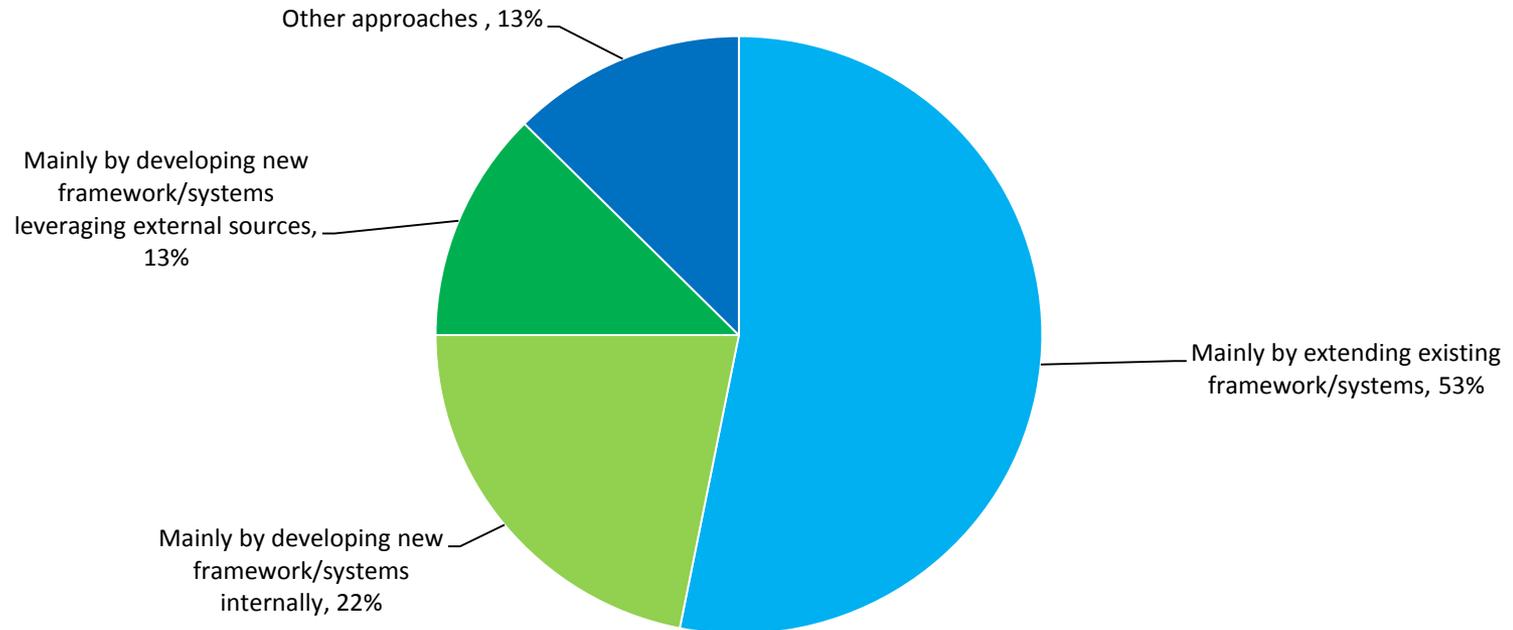


Quali sono i principali benefici di business attesi da BCBS239 ?

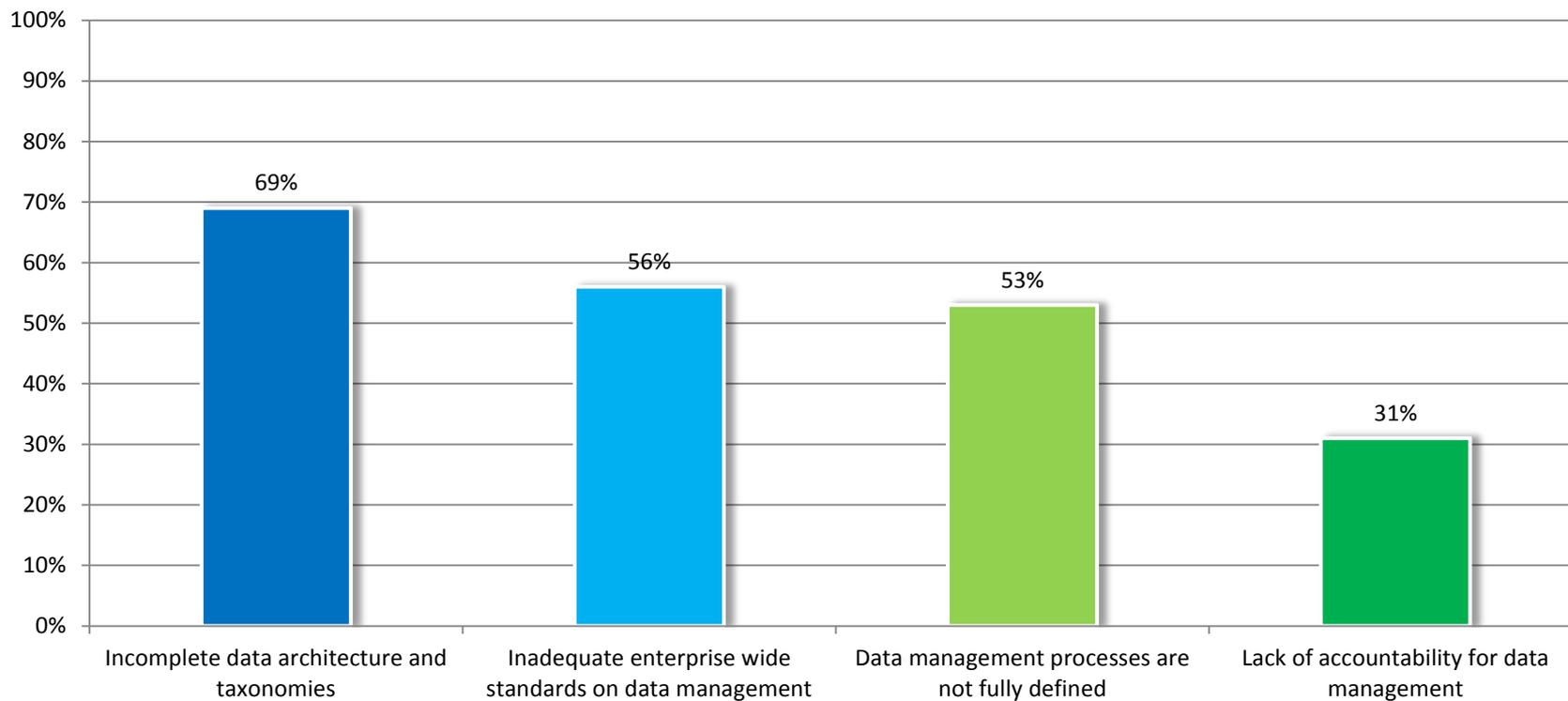


* Multiple answers were possible

Come pensate di raggiungere la compliance a BCBS 239 ?

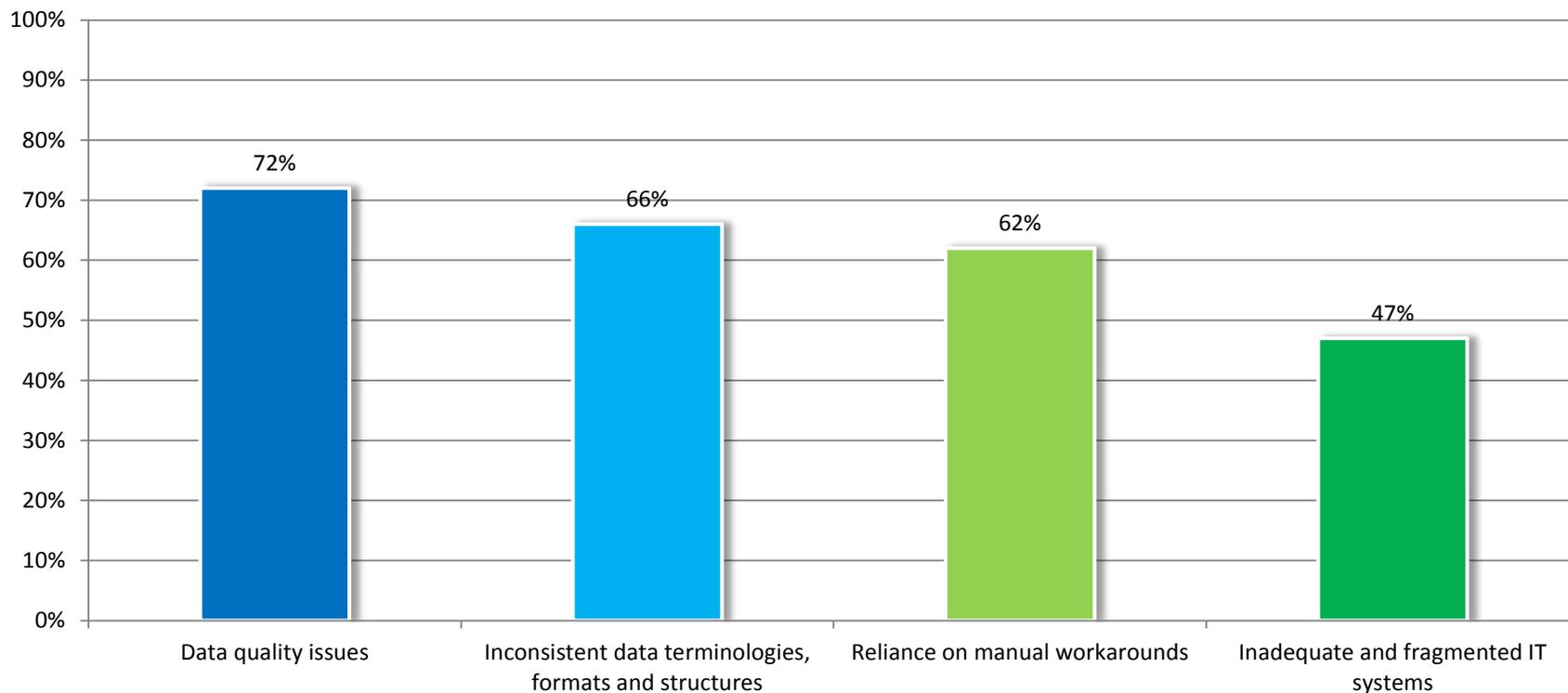


Principali sfide dei principi “Governance and Infrastructure”



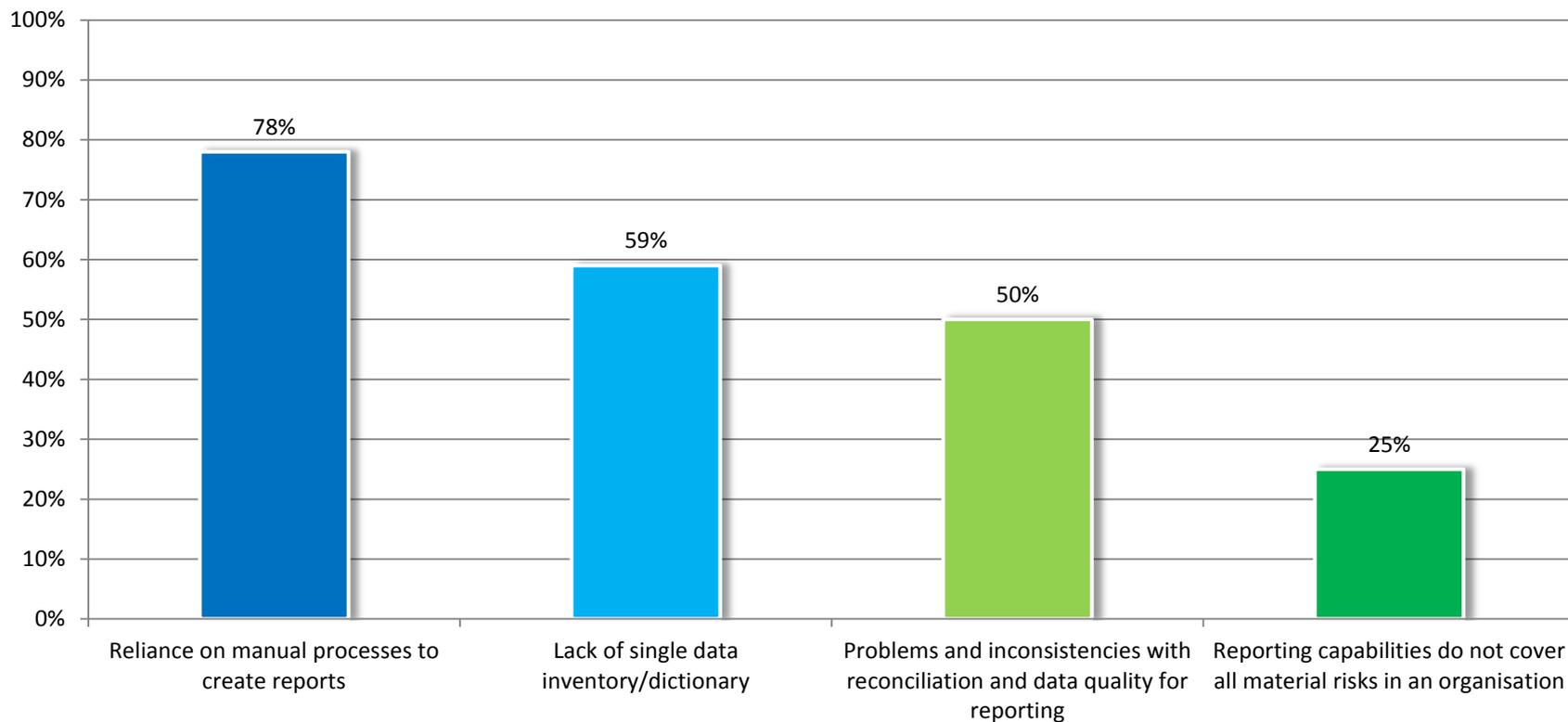
* Multiple answers were possible

Principali sfide dei principi “*Risk Data aggregation capabilities*”



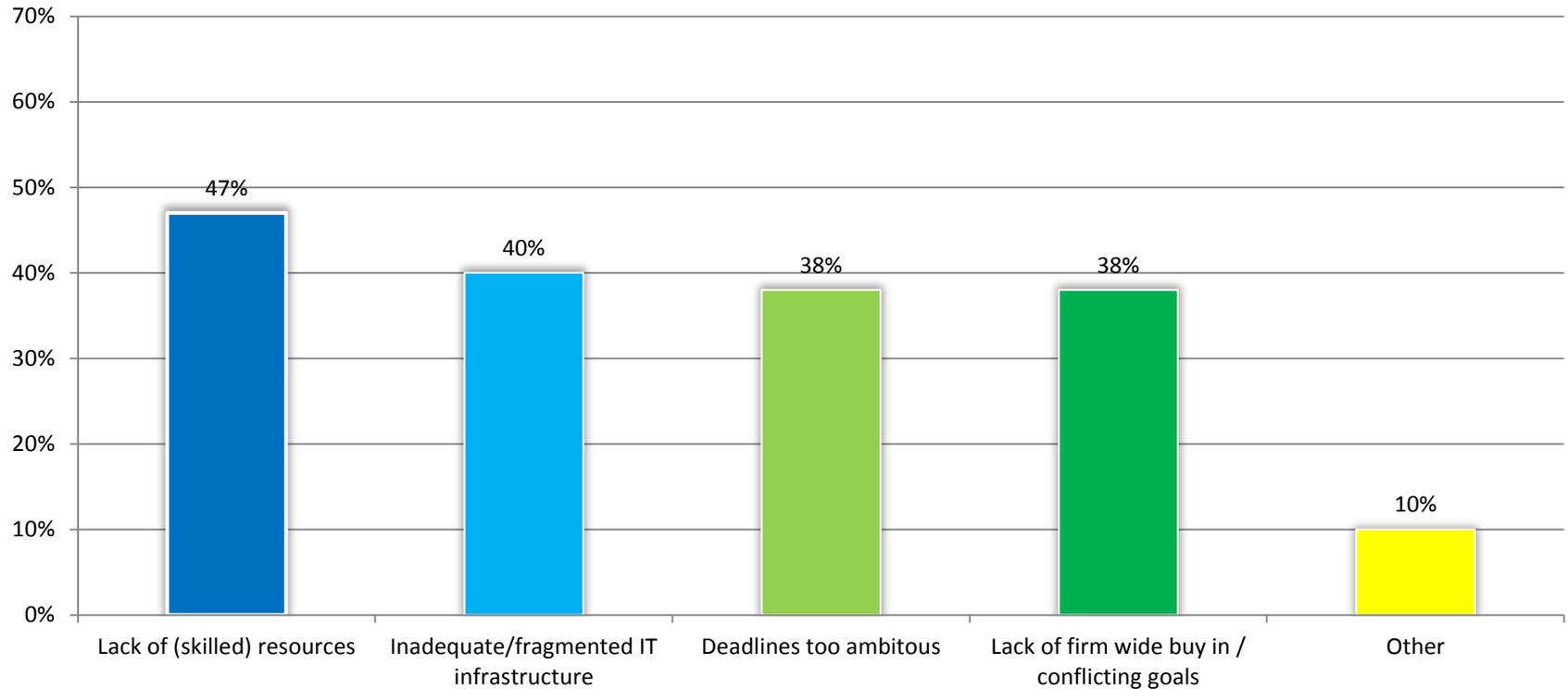
* Multiple answers were possible

Principali sfide dei principi “Risk reporting practices”



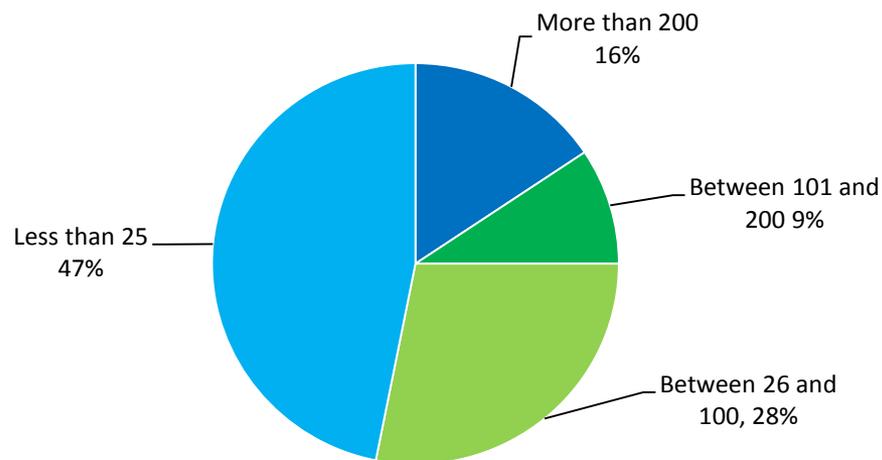
* Multiple answers were possible

Quali sono stati i principali ostacoli durante l'implementazione ?

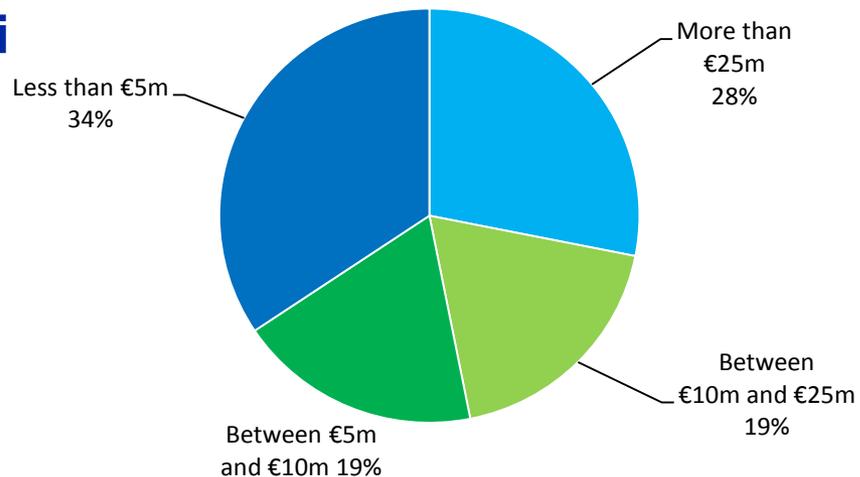


* Multiple answers were possible

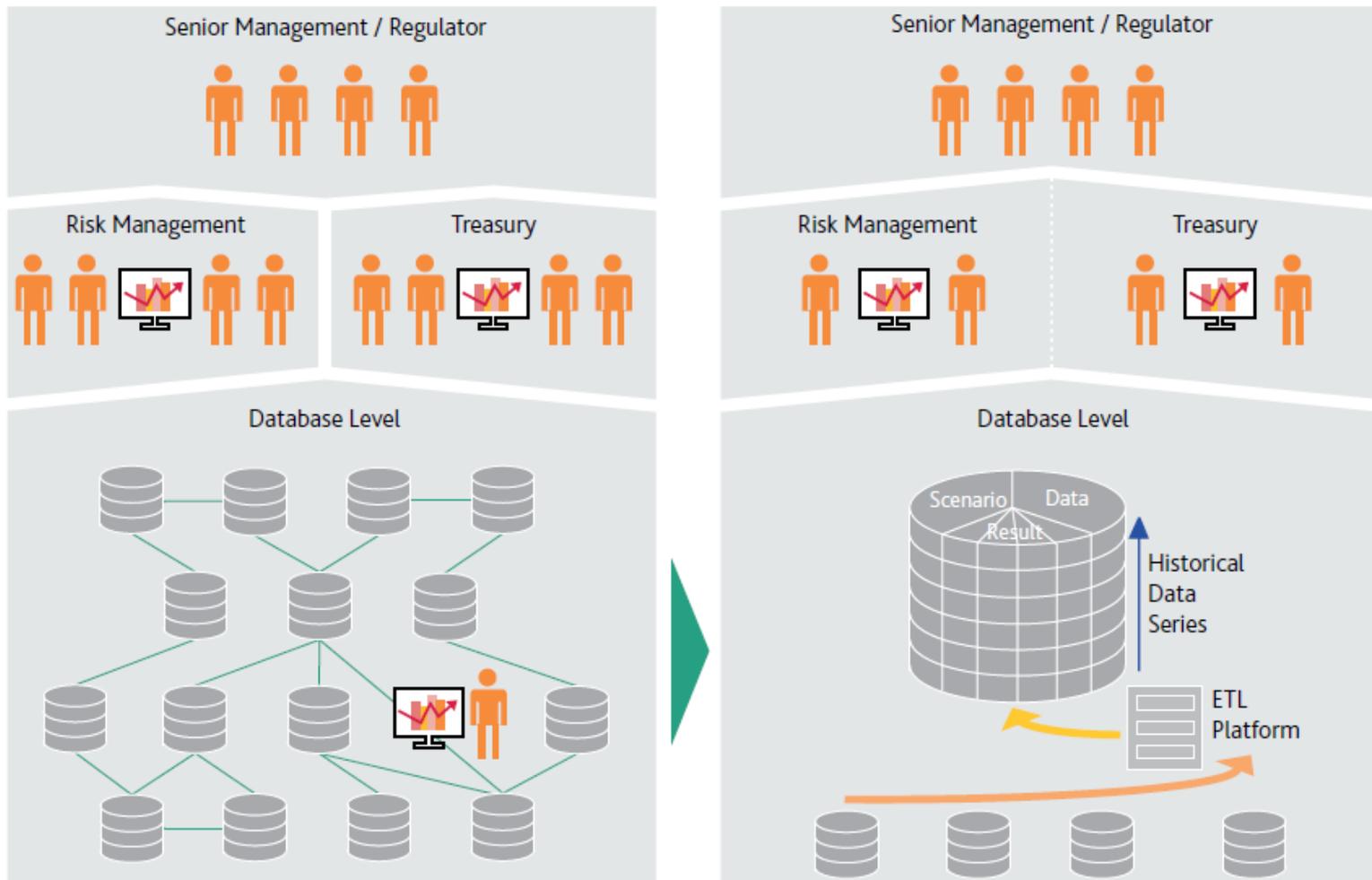
Quante persone sono state coinvolte in totale nel progetto BCBS 239?



Quale è stato il budget totale allocato per l'implementazione di BCBS 239?



Verso processi di risk data management più snelli ed efficienti



Source: Moody's Analytics

Architettura centralizzata e consolidata multi livello

Local Reporting requirements at each consolidation level

Business Rules & Workflows

Head Office

Domestic

Overseas

HK

TW

Market Data

Bloomberg, Reuters

General Ledger

GL Recon.

Capital

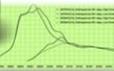
Items

Source Systems

Treasury, Investments, Assets & Liabilities, Commitments, Counterparties,...

Calculation Rules Portfolio

Stress Scenario

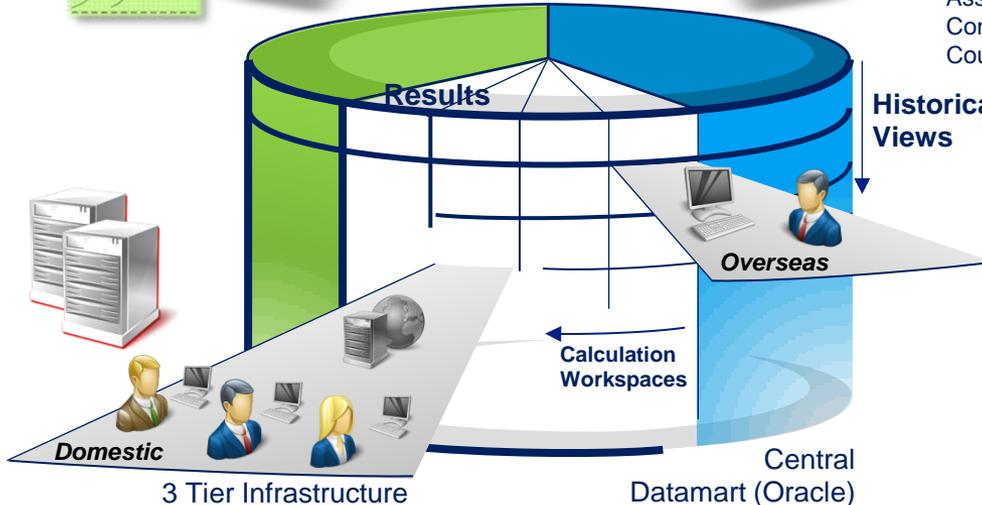


Risks & Behavioral Models



Regulation
Delivered & maintained by Moody's Analytics

Calculation & Reporting Engines



Data Editing & Querying
Data Patching Tool
Error Checking



GL reconciliation
Data Adjustment
Workflows



Dashboard & Alerts
Graphical Analytics
Publishable Reports



Regulatory Reports
Updated regularly
for local compliance

Data Model completo per tutte le attività della banca

| Financial Products | Supporting Data |
|--|---|
| <p>Wholesale and Retail Banking</p> <ul style="list-style-type: none"> Loandepo Account On/off Balance Facility Retail Exposure Retail Pool Credit Agreement Documentary Credit Receivable | <p>Derivatives & Forex</p> <ul style="list-style-type: none"> Interest Rate Swap/Svaption Forex Future Cap/Floor Option Forex Option FRA Credit Derivative Equity Swap Asset Swap Commodity Swap Foreign Exchange Position |
| <p>Securities & Positions</p> <p>Securities</p> <ul style="list-style-type: none"> Bond Equity Convertible Fund Index Commodity Codifiers National Markets <p>Positions</p> <ul style="list-style-type: none"> Security Position Repo Collateral Liquidity Facility | <p>Credit Risk Mitigants</p> <ul style="list-style-type: none"> Collateral Guarantee Pledge Portfolio Mortgage Note/Real Estate Credit Derivative Netting Agreements <p>Securitization</p> <ul style="list-style-type: none"> Securitization Program Securitization Tranche |

| Financial Products | Supporting Data |
|---|--|
| <p>Geography</p> <ul style="list-style-type: none"> Country Geographic Area Geographic Area Links Holiday Calendars National Markets | <p>Companies Hierarchy</p> <ul style="list-style-type: none"> Companies Companies Links Company Types Subsidiary Types Legal Forms Dealbooks Gross Income Business Line Business Line Mapping Business Line Links |
| <p>Accounting</p> <ul style="list-style-type: none"> GAAP Provisions Balance Sheet Accounts Booking GL Bookings Vs Financial Products Data | <p>Custom Types</p> <ul style="list-style-type: none"> Contract Types Contract Types Links Economic Sectors Industry Sectors Industry Sector Levels Import Sources Family Currency Position Types Functional Parameters Functional Parameters Links |
| <p>Counterparties and Netting</p> <ul style="list-style-type: none"> Counterparties Counterparties Links Counterparty Types Ratings Netting Agreements EPE Detail Import | |
| <p>Financial Data</p> <ul style="list-style-type: none"> Currencies Exchange Rates Tenor Interest Rates | |

Livello granulare e sezioni dedicate per ogni prodotto finanziario

Loans and deposits

| | | |
|--------------------|---|-----|
| Reference: | ▼ Characteristics | |
| First Reference: | ▼ Amortizing | |
| Description: | ▼ Basel II | |
| Contract Type: | | |
| Counterparty: | ▼ Liquidity Risk | |
| Family: | ▼ Attributes & Amounts | |
| Import Source: | Attribute 1: | ADV |
| FDW Netting Agree | Attribute 2: | |
| Participation Flag | Attribute 3: | M |
| | Attribute 4: | |
| | Attribute 5: | |
| | Attribute 6: | |
| | Attribute 7: | |
| | Attribute 8: | |
| | Attribute 9: | |
| | Amount 1: | |
| | Amount 2: | |
| | Amount 1 Currency: | |
| | Amount 2 Currency: | |
| | ▶ Segmentation Criteria or Reporting Free Attributes I | |
| | ▶ Segmentation Criteria or Reporting Free Attributes II | |

Documentazione del data-model

The screenshot displays the DMM Browser interface for the 'ACCOUNT' table. The left sidebar lists various tables, with 'ACCOUNT' selected. The main panel shows the table's metadata:

- Type: Standard table DATA
- Products: FDM
- Model Table: Products
- Initialization Mode: Products formula. This formula is used to know for which product the object must be installed. The formula can include the following products codes : "Z"; ADM "F"; FDW "C"; CAD "G"; GEM "R"; REP "E"; FCE "A"; Fermat ALM (obsolete) "B"; BIS "I"; Fermat IAS (obsolete) "K"; ECA "M"; RiskAuthority Market Risk "P"; RAPM "N"; SA And t...
- Description: Refer to DMM Browser for more details

Below the metadata, the 'Characteristics' section is visible, showing the following values:

- Contract Type: GRiP_LOAN
- Dealbook: MOO_A
- Counterparty: 125
- Family:
- Import Source:
- FDW Netting Agr.: Auto Allc

A yellow callout box provides a detailed definition of the 'Type' characteristic:

Type defined by the bank for the classification of contracts Reserved Values: LOAN : Loan granted by the company to a third party DEPO : Loan contracted by the company from a third party (also referred to as a deposit) MORT : Mortgage Example: StraightLoan, Term_Loan, Mortg_Loan Authorized values: select ct_code_user from contract_types where contract_category="LOANDEPO"

Data quality reports

MOODY'S ANALYTICS

Financial & Risk Datamart

Navigation search

Financial Products | **Check Errors**

Import set: <All tables>

Refresh counters | Check errors | Edit... | Correct errors...

Select Column | Select Relationship | Enter a value

| | Table | OK (%) | Relevant for | Table Type | Rows |
|--|-------------------------|----------|--------------|------------|---------|
| | ACCOUNT | 27.45 % | FDM | DATA | 110,... |
| | ACCOUNT_AGG | 100.00 % | FDM | CALC | 0 |
| | ACCOUNT_CONTRACT | 100.00 % | FDM | PARAM | 0 |
| | ACCOUNT_MAN | 100.00 % | FCE | DATA | 0 |
| | AGG_DEAL | 100.00 % | FDM | DATA | 0 |
| | AGREEMENT_CRM_LINKS | 100.00 % | FDM | DATA | 0 |
| | ALM_CONFIG_PARAM | 100.00 % | FCE | PARAM | 1 |
| | ALM_CONFIG_PARAM_BACKUP | 100.00 % | FCE | PARAM | 0 |
| | ALM_RUN_SUBSET | 100.00 % | FCE | PARAM | 0 |
| | AMORTIZING_PROFILE | 100.00 % | FCE | PARAM | 0 |
| | AMORTIZING_PROFILE_I | 100.00 % | FCE | REGULAR | 0 |
| | AMOUNT_MULTIPLIER | 100.00 % | ADM | REGULAR | 0 |

Reports degli errori e relative correzioni dei dati

Lista prodotti con scarsa data quality

| Partition Key | Contract Reference | Contract Type | Contract Desc | Book Code |
|---------------|------------------------------|---------------|-------------------------------------|--------------|
| 201112310000 | TDepo_Ind_04_wrong_portfolio | RET_DEPO_T | Time deposits by Individual - 03 | MyWrongPrtrf |
| 201112310000 | loan_test | LOANDEPO | loan to financial institutions 0010 | db_test |
| 201112310000 | LOANDEPO-0000482478 | LOANDEPO | | LM Hold |
| 201112310000 | LOANDEPO-WN | LOANDEPO | Loan to Entity-WN | Waseem book |
| 201112310000 | LOANDEPO-HH | LOANDEPO | | db_HH |
| 201112310000 | LOANDEPO-NA0000482477 | LOANDEPO | Nelson loan | dealbook1 |
| 201112310000 | LOANDEPO-NW-Train | LOANDEPO | Neil Williamson Training | db_NW_Train |
| 201112310000 | LOANDEPO-PG | LOANDEPO | | dealbook_t |

Dettagli del deal selezionato. Finestra editabile per consentire data recycling

Contract Reference: TDepo_Ind_04_wrong_portfolio
Contract Type: RET_DEPO_T
Contract Desc: Time deposits by Individual - 03
Book Code: MyWrongPrtrf
Counterparty Code: FR_INDIV_0010
Trade Date:
Value Date:
Maturity Date:
Deleted:
IRR Calc:
Rate:
Rate Value:
Periodicity: M
Compound Periodicity:
Accrual Basis: 2
Amortizing Type: F
Amortizing Factor:

Lista di regole non rispettate nel deal selezionato

| Table Name | Check Error Number | Constraint Name | Constraint Type | Message |
|------------|--------------------|-----------------|-----------------|---|
| LOANDEPO | 285 | FK_LOANDEPO_001 | Foreign key | Check error #285: Foreign key violated... |

Message di errore contiene elementi funzionali e tecnici

Definizione delle regole di correzione

Rules: EUZ

Icons: +, +, X, |, Pencil, Save, No, Add, Refresh, Gear, |, Magnifying Glass, Document, Checkmark, Play

Rule: [dropdown] contains [dropdown] Enter a value [input] + Go Clear

| i | Rule Type | Description | Table Name | Where Clause |
|---|--------------|-------------|------------|----------------|
| | Patching (A) | EUZ to EUR | LOANDEPO | CURRENCY='EUZ' |

Column Expressions: EUZ

Icons: +, +, X, |, Pencil, Save, No, Add, Refresh, Gear, |, Magnifying Glass

Column Name: [dropdown] contains [dropdown] Enter a value [input] + Go Clear

| i | <input checked="" type="checkbox"/> | Column Name | Expression |
|---|-------------------------------------|-------------|------------|
| | <input checked="" type="checkbox"/> | CURRENCY | 'EUR' |

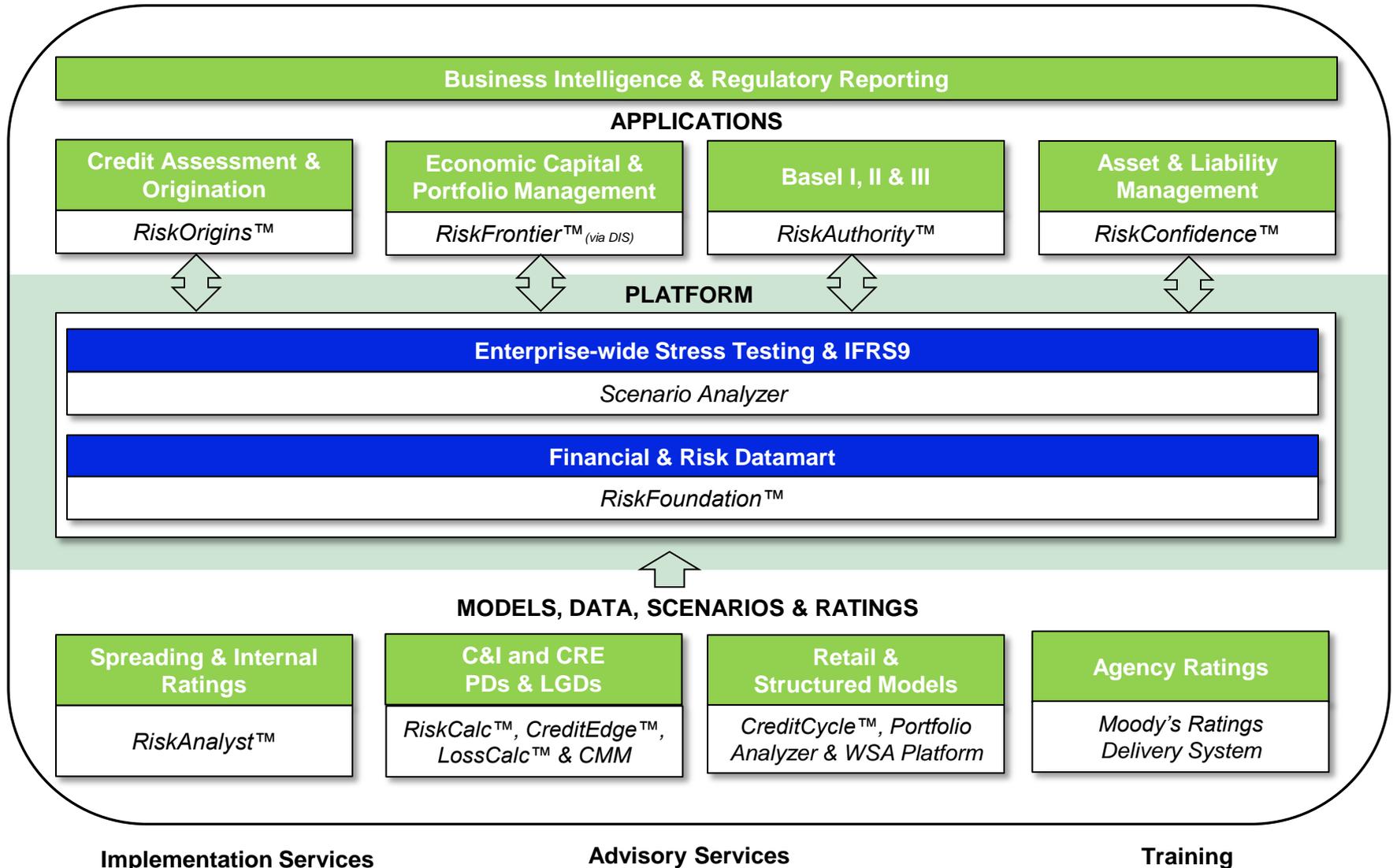
1. L'utente può selezionare:

- quale campo modificare/correggere
- quale valore/regola di default applicare

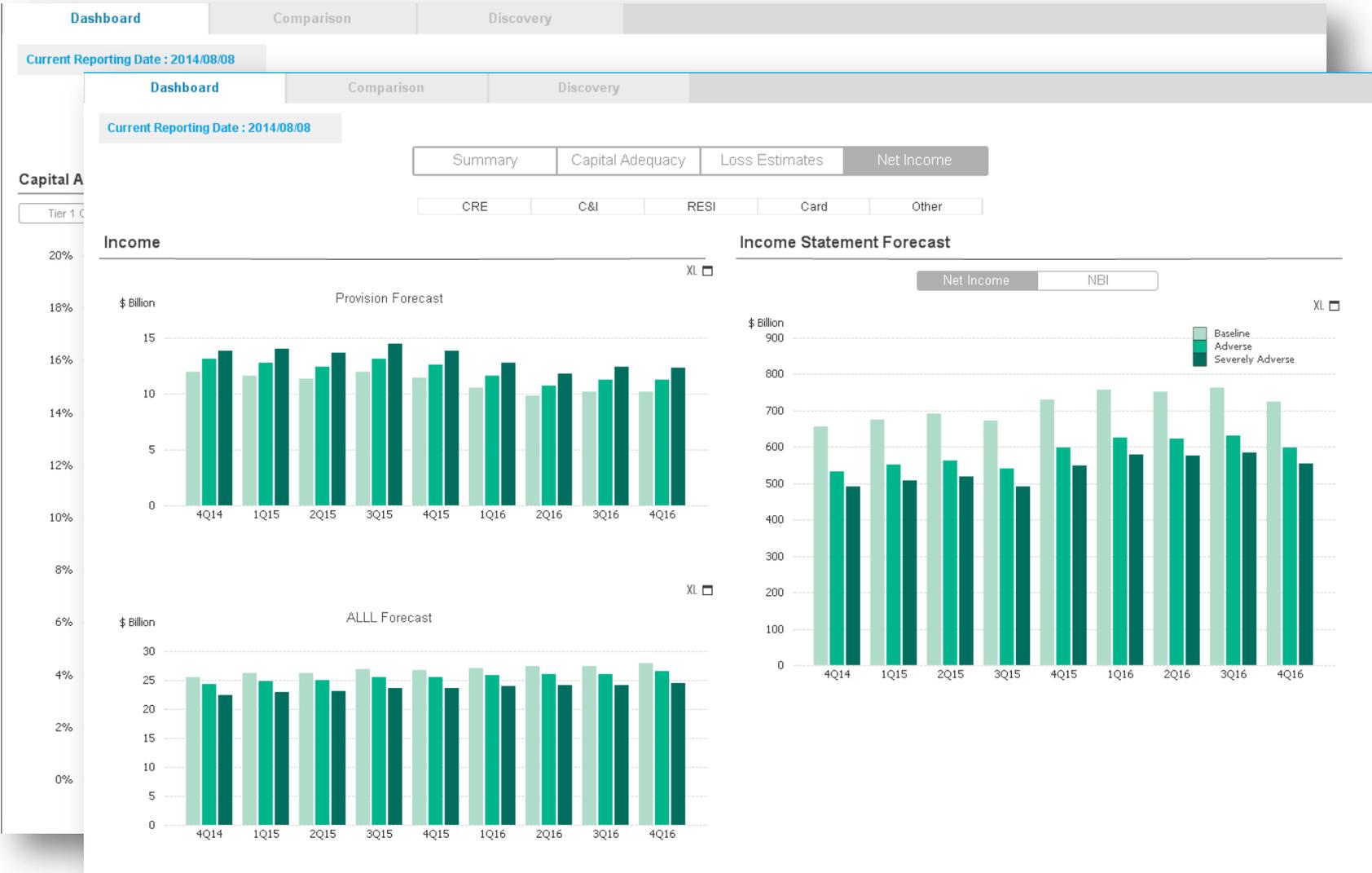
2. La correzione sarà applicata per le transazioni identificate dall'utente (es. specifico source system, entità, etc)

3. Anteprima dei cambiamenti prima di applicare la modifica

Centralizzazione in un unico datamart e integrazione Risk/Finance



Tool di reporting flessibile e preciso



Dashboard

Data Discovery

Ad Hoc

Variance

Trend

MAP

Selected Criteria

Clear All

<

>

Units: U K M B

Currency - EUR

Current date: 31 Mar 2013

Exposure

61 204 665

▼ -6%

Capital Requirement

1 635 485

▼ -6%

Expected Loss

187 373

▼ -6%

Specific Provision

9 123

▲ +0%

Capital Deductions

70 151

▼ -100%

Average Risk Weight

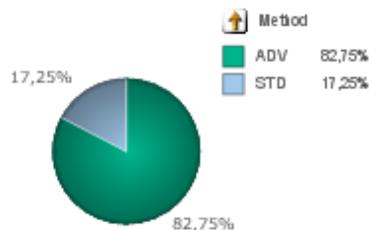
33,40%

▲ +0,00 pts

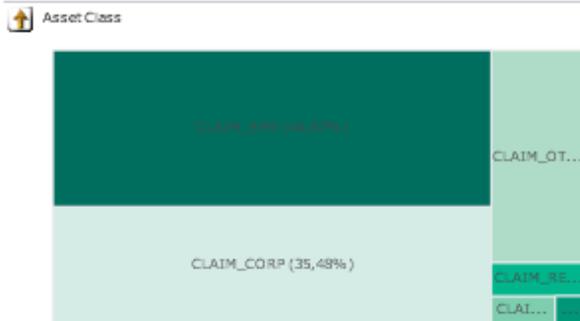
Risk Weighted Assets

| Booking Company | RWA | % |
|-----------------|-------------------|--------|
| Total | 20 443 565 | |
| 861S | 12 758 501 | 62,41% |
| 40 | 1 568 126 | 7,67% |
| 277C | 796 108 | 3,89% |
| 122 | 615 941 | 3,01% |
| 93 | 571 239 | 2,79% |
| 74 | 536 383 | 2,62% |
| 46 | 513 925 | 2,51% |
| 250B | 437 872 | 2,14% |
| 642V | 423 059 | 2,07% |
| 111 | 326 490 | 1,60% |
| 143 | 307 500 | 1,50% |
| 114 | 252 802 | 1,24% |

Risk Weighted Assets



Distribution per Asset Class

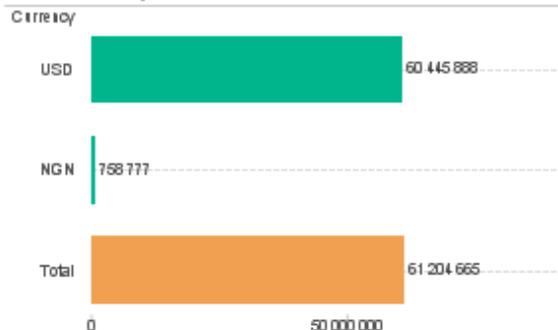


Risk Concentration

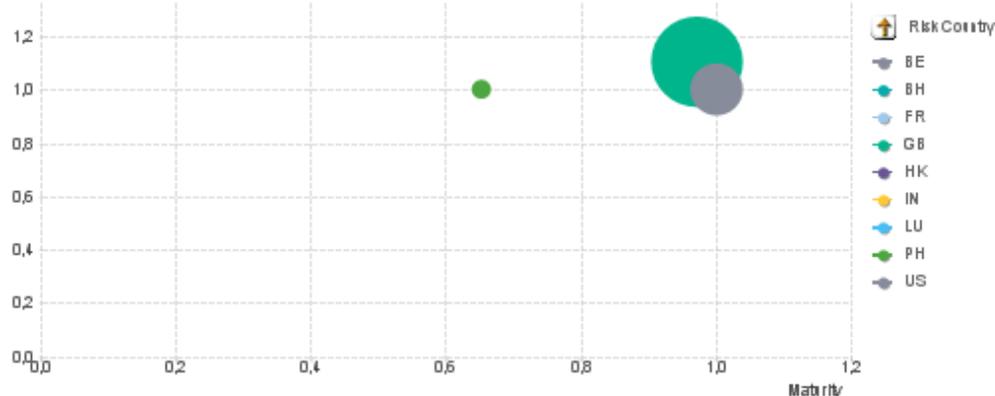
Standardized Approach

IRB Approach (PD LGD)

EAD - Currency Distribution



Risk Weight



Dashboard

Data Discovery

Ad Hoc

Variance

Trend

MAP

Units: U K M B

Currency - EUR

Current date: 31 Mar 2013 / Reference date: 28 Feb 2013

Filters

Saved filters

Select Bookmark

+ Add - Remove

Selected Criteria

REPORTING_D < 31 Mar 2013

Clear All < >

Import Source

TXOOX-SOQT
HYXFK-QOKJ
GLWES-XFOY
EEOQT-GGZS
GUSSO-YJWO
NZBDZ-TGKD
ZCUGI-GFXL

Booking Company

1
2
6
7
8
11
12
14

Adjustment

More Filters

Main Indicators Variance

| Type of Method | Dealbook | Contract Type | Exposure 31 Mar 2013 | Exposure 28 Feb 2013 | Exposure Difference |
|----------------|-------------|---------------|----------------------|----------------------|---------------------|
| | | | 61 204 665 | 64 876 945 | -3 672 280 |
| Advanced | 013_AS_MDZW | CJH138 | 189 | 201 | -11 |
| Advanced | 013_AS_MDZW | DSW275 | 9 830 | 10 420 | -590 |
| Advanced | 013_AS_MDZW | ELY080 | 1 080 | 1 144 | -65 |
| Advanced | 013_AS_MDZW | LWQ510 | 722 | 765 | -43 |
| Advanced | 013_AS_MDZW | MPB_DOG | 0 | 0 | 0 |
| Advanced | 013_AS_MDZW | NEI771 | 7 788 | 8 255 | -467 |
| Advanced | 013_AS_MDZW | PUW985 | 11 826 | 12 536 | -710 |
| Advanced | 013_AS_MDZW | QJZ382 | 462 | 489 | -28 |
| Advanced | 013_AS_MDZW | XKO489 | 3 870 | 4 103 | -232 |
| Advanced | 013_AS_MDZW | YXM496 | 328 | 348 | -20 |
| Advanced | 021_PT_MYXK | QDT-JSXYTBYG | 0 | 0 | 0 |
| Advanced | 021_TB_NKXG | EFM995 | 2 374 | 2 516 | -142 |
| Advanced | 021_TB_NKXG | KVX696 | 10 414 | 11 039 | -625 |
| Advanced | 021_TB_NKXG | UJU289 | 143 973 | 152 611 | -8 638 |
| Advanced | 021_TB_NKXG | XKO489 | 635 | 674 | -38 |
| Advanced | 027_RT_YGWS | ORV-DUYUGJRR | 0 | 0 | 0 |
| Advanced | 027_RT_YGWS | QDT-JSXYTBYG | 0 | 0 | 0 |

| Counterparty | Contract Reference | Exposure 31 Mar 2013 | Exposure 28 Feb 2013 | Exposure Difference |
|--------------|----------------------|----------------------|----------------------|---------------------|
| | | 61 204 665 | 64 876 945 | -3 672 280 |
| 24362440-09 | 8374>;@8^YZSZI>_bxYe | 49 | 52 | -3 |
| 24362440-09 | 5316>;X2^BADDO>_xfPm | 49 | 51 | -3 |
| 24362440-09 | 0601><;0^EVJPV>_vvDo | 48 | 51 | -3 |
| 24362440-09 | 693>@;=3^JFMVP>_gaDI | 38 | 40 | -2 |
| 24362440-09 | 291<?2=5^BZPRC>_tIBd | 10 | 11 | -1 |
| 24362440-09 | 21::<G@9^TEZPX>_rvFq | 0 | 0 | -0 |
| 24362440-09 | 38::=:;1^TAOQP>_hvfQ | 0 | 0 | -0 |
| 24362440-09 | 7<0=>@15^JZNAU>_piMa | 9 | 10 | -1 |
| 24362440-09 | 80::=:<5^IHFUX>_nbPe | 0 | 0 | -0 |
| 24362440-09 | 8;?::63^BRPSO>_emQb | 0 | 0 | -0 |
| 24362440-09 | 5;?::<5^NPBIP>_vgVi | 0 | 0 | -0 |
| 24362440-09 | 3;?::=0^JIHXO>_idFi | 4 | 4 | -0 |
| 24362440-09 | 3;8@?2^CNCDL>_caLh | 3 | 3 | -0 |
| 24362440-09 | 4=;0@?>7^XKEBK>_khWn | 3 | 3 | -0 |
| 24362440-09 | 3;>:<=>5^FAXXC>_nhNh | 1 | 1 | -0 |
| 24362440-09 | 82=:2:57^JZZND>_agRx | 0 | 0 | 0 |
| 24362440-09 | 7<>::5=5^SCWVF>_cxWn | 157 | 166 | -9 |
| 24362440-09 | 1=4463<2^CSXYN>_uvEd | 197 | 209 | -12 |
| 24362440-09 | 7:5?<?:1^EGKQO>_ukKo | 3 | 3 | -0 |

Filters Search

Select Dates for Trend Analysis

Saved filters

Select Bookmark

+ Add - Remove

Selected Criteria

REPORTING_DATE - 31 Mar 2013

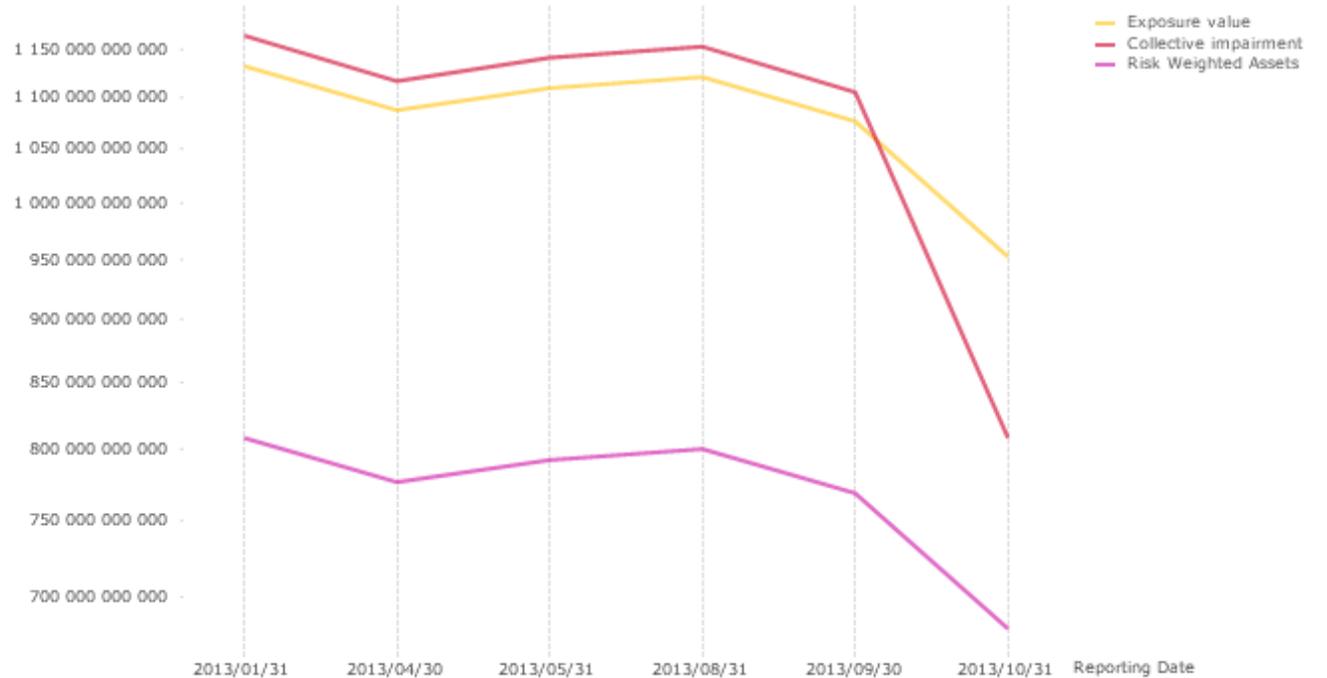
AGG_REPORTING_DATE - 2013/10/31, 2013/09/30, 2013/08/31, 2013/05/31, 2013/04/30, 2013/01/31

Clear All < >

Measures

- Exposure value
- Collective Impairment
- Risk Weighted Assets
- Capital requirement
- Expected loss
- Individual Impairment
- Other Value Adjustment
- Expected Loss - Impairments

RWA and Exposure Trends



Wrap up

- I regulators hanno identificato nel debole data management una delle cause che ha accelerato la crisi finanziaria.
- I principi BCBS 239 hanno richiesto ingenti investimenti alle banche europee in ambito data management. Il mercato si attende che questi principi si applicheranno gradualmente anche alle banche più piccole.
- Le principali sfide sono state l'architettura dati incompleta, l'infrastruttura IT frammentata, la scarsa qualità dei dati, e l'eccessivo affidamento su processi manuali.
- Le banche si aspettano che l'implementazione di BCBS 239 porti benefici di business, soprattutto in termini di miglioramento di efficienza operativa e di capital management.
- Molte altre normative vanno nella stessa direzione di BCBS239.

Moody's ANALYTICS

Luca D'Amico
Director, Italy

+44 20 7772 1404 tel.

+44 7805 753816 mobile

luca.damico@moodys.com

Moody's Analytics UK Ltd.

One Canada Square

Canary Wharf

London E14 5FA

United Kingdom

www.moodys.com

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