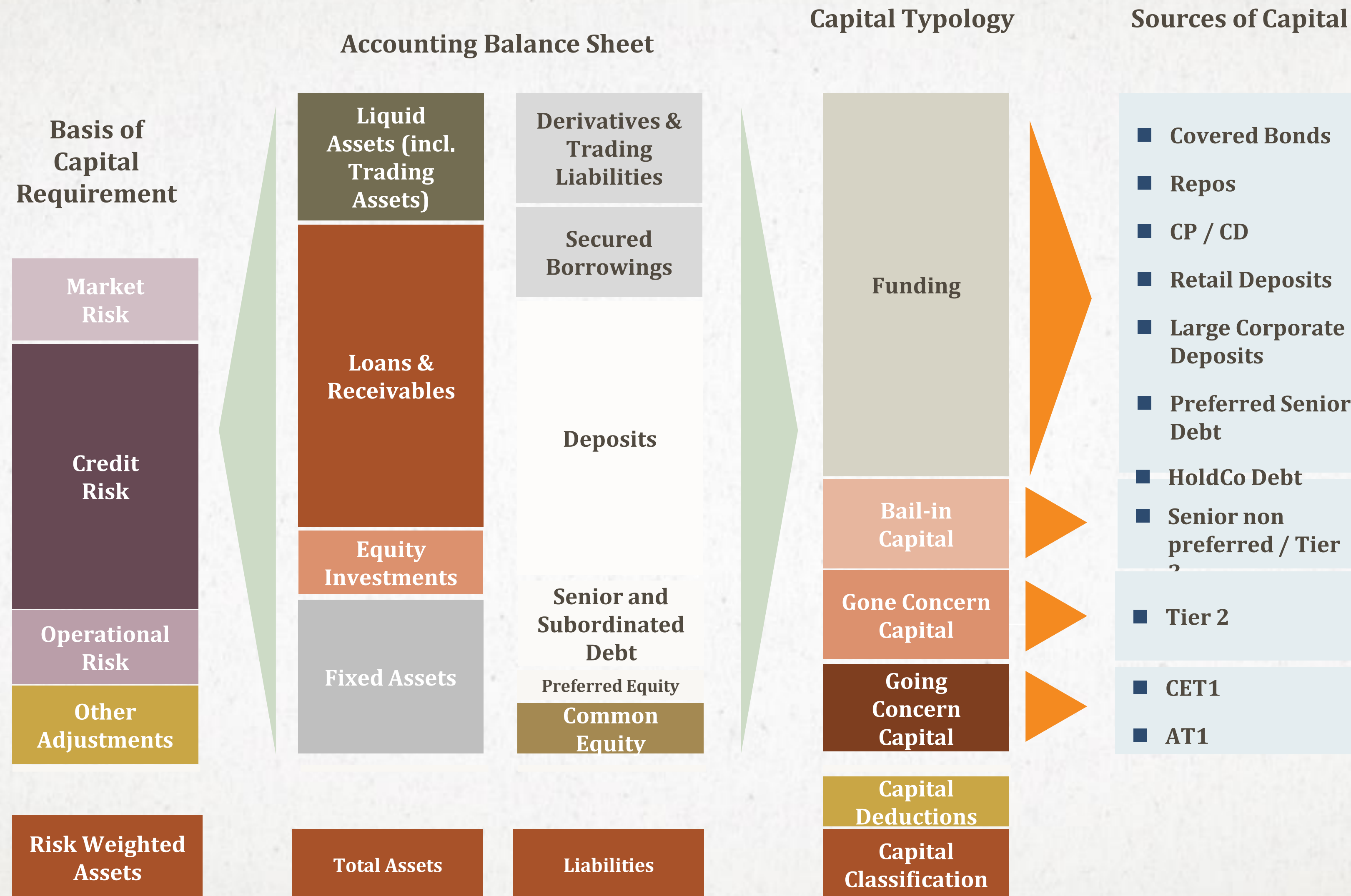
RISK APPETITE FRAMEWORK

TRANSLATING A BANK B/S INTO A REGULATORY B/S



CAPITAL REQUIREMENT

- The required regulatory (loss absorption) capital is defined as a specified percentage «*x*» of banks' total Risk Weighted Exposures (RWE), i.e.

$$\textit{Required Regulatory Capital} = x\% * \textit{Total RWE}$$

where Total RWE = $\sum RWE_i = \sum E_i * w_i$

<u>Total Capital Requirement</u> (going + gone concern) $x = 8\%$

- RWE since:
  - some exposures, i.e. risk of a loss, do not arise from asset holdings
  - even when they do arise from asset holdings, the implementation of validated internal model provides a direct quantification of the euro capital requirement,

$$RWE_i = E_i * w_i = \textit{Total Capital Requirement for Asset}_i *$$

BANK CAPITAL

- Own funds
  - risk ...
- Regulatory capital
  - *Risk ...*
- Budgeted Economic Capital
  - risk ....
- Actual Economic Capital
  - risk ....
- Economic Capital vs. Regulatory Capital
  - Risk vs. Risk

THE RISK APPETITE FRAMEWORK (RAF)

- Since 2008 there has been a renewed banks' effort to strengthen the risk appetite framework ("RAF") as the foundation of any effective and sound risk governance process

- Guidance on RAFs has been given by:
  - Institute of International Finance ("IIF"),
  - Senior Supervisors Group ("SSG"),
  - Financial Stability Board ("FSB")
  - Office of the Comptroller of the Currency ("OCC")

- RAF is "*the overall approach, including policies, processes, controls, and systems, through which* ***risk appetite*** *is established, communicated, and monitored*" (FSB, 2013)
  - *Risk appetite*
    - *the aggregate level and types of risk a firm is willing to assume within its* ***risk capacity*** *to achieve its strategic objectives and business plan.*
  - *Risk capacity*
    - *maximum level of risk the firm can assume before breaching constraints defined by regulatory capital and liquidity needs and its obligations, also from a conduct perspective, to depositors, policyholders, customers, shareholders.*

RAF – I/II

- The RAF describe the bank’s desired against which the effective risk profile must be benchmarked
- The RAF includes:
  - a risk appetite statement
  - risk limits
  - an outline of the roles and responsibilities of those overseeing the RAF implementation and monitoring
- The RAF should consider all material risks to:
  - the bank
  - to its reputation vis-à-vis policyholders, depositors, investors and customers
- The RAF must aligns with the bank’s strategy”

RAF – II/II

- It is part of:
  - the bank's strategy development & implementation process
  - and of the determination of its risk-taking in relation to its risk capacity.
- The RAF must be aligned with the bank's:
  - business plan
  - capital planning
  - compensation scheme
- An effective RAF should:
  - provide a common framework and comparable measures for top managers and board to communicate, understand, and assess the types and level of risk that they are willing to accept
  - explicitly defines the boundaries within which managers shall work
- Most effective RAFs incorporate the framework into
  - the decision-making process
  - the institution-wide risk management framework,
- RAF must communicated and promoted throughout the organization, starting from the top.

HOW TO FOSTER THE RAF EFFECTIVENESS

- ✓ establish a process for communicating the RAF within the bank
- ✓ share its non-confidential infos with external stakeholders;
- ✓ build it based on both top-down board leadership and bottom-up involvement of management at all levels
- ✓ let it be embedded and understood across the bank, facilitating a bank's risk culture based on risk appetite;
- ✓ make it a tool of defence against excessive risk-taking;
- ✓ leverage on it to promote discussions on risk and as a basis for the board, risk management and internal audit functions to debate and challenge management recommendations and decisions;
- ✓ make it adaptable to changing conditions - subject to the required board or senior management approval, opportunities that require an increase in the risk limit of a business line or legal entity could be pursued while remaining within the agreed institution-wide risk appetite
- ✓ it should cover activities, operations and systems of the bank that fall within its risk landscape but are outside its direct control, including subsidiaries and third party outsourcing suppliers
- ✓ be forward looking and, where applicable, subject to scenario and stress testing, to ensure that the bank understands what events might push the financial institution outside its risk appetite and/or risk capacity.

RISK APPETITE STATEMENT (RAS)

- must include key background information and assumptions informing the bank's strategic and business plans at the time of their approval;
- be linked to the bank's short- and long-term strategic, capital and financial plans, plus the compensation plans;
- establishes the amount of risk the bank is prepared to accept in pursuit of its strategic objectives and business plan, taking into account
  - the interests of its customers (e.g. depositors, policyholders);
  - the fiduciary duty to shareholders
  - capital and other regulatory requirements;
- determines for each material risk, and overall, the maximum level of risk that the bank is willing to operate within, based on its overall risk capacity (risk appetite);
- includes quantitative measures that can be translated into risk limits applicable to business lines and legal entities as relevant, and at group level
- these measures can be aggregated and disaggregated to enable measurement of the risk profile against risk appetite and risk capacity;
- must ensure that the strategy and risk limits of each business line and legal entity, as relevant, align with the institution-wide risk appetite statement as appropriate; and

RAF METRICS

- RAF should establish measures of loss or negative outcomes that can be aggregated/disaggregated.
- These measures may be expressed in terms of:
  - earnings
  - capital
  - liquidity-at-risk
  - or other appropriate metrics (e.g. growth rate, volatility, coverage ratio)
- Setting the institution-wide risk appetite is the first step; the aggregate risk appetite should be allocated to the financial institution's business lines, legal entities as relevant, and other levels as appropriate, in alignment with the institution's strategic and business plans.
- Qualitative statements should complement quantitative measures
  - set the overall tone for the financial institution's approach to risk taking;
  - articulate motivations for taking/avoiding certain types of risks, products, country/regional exposures
  - articulate the approach to take/avoid non quantifiable risks establishing boundaries or indicators (e.g. non-quantitative measures) to enable the monitoring of these risks;
    - ✓ reputational
    - ✓ conduct risks in retail/wholesale markets

RAF METRICS

A. High-level qualitative statements

- Scope of RAS
- Linkage to mission statement and core values
- Goals in areas such as strategic business intent, capital adequacy, liquidity, desired risk profile, reputation, and enterprise capabilities
- Key risks in relation to strategy and core businesses

B. Enterprise-wide common quantitative metrics

Risk concentrations	Earnings	Capital and liquidity	Return /risk measures

C. Qualitative guidance & quantitative metrics by risk type

Credit Limits, product mix, profitability, periodic recalibration	**Market** Limits, product mix, profitability, periodic recalibration	**Liquidity & funding** Limits, sources and uses, cost efficiency	**Operational** Efficiency, resilience, key indicators
Business Long-term viability, sustainability, stakeholder, confidence	**Reputation and conduct** Core values, customer-centric business conduct, corporate social responsibility	**Regulatory and compliance** Supervisory expectations, laws and regulations	

D. Each qualitative guidance and quantitative metric can have multiple dimensions such as under normal and stressed environments

Source: IACPM-PWC, Risk Appetite Frameworks

A.
Qualitative description of guiding principles related to the firm's risk appetite

B.
Consistent articulation of quantitative risk and return metrics for aggregation and allocation to business lines and risk types

C.
Metrics specific to risk types or business lines

D.
Metrics expressed in multiple dimensions

Earnings & Share Price	Economic Profit Return on Equity Earnings Volatility Share Price Volatility Profit Growth
Capital & Liquidity	Capital & Leverage Ratios Liquidity & Funding Securitization Risk Benchmarks for Capitalization Regulatory Capital > Economic Capital
Impairments and EL	Maximum LIC % Expected Loss
Segmentation	PBT, EC & EP, Targets by Region and Customer Group
Strategic Investments	Maximum market value of investments
Stress Testing	Capital Ratios Under Different Scenarios
Risk Categories	Credit Risk Market Risk Interest Rate Risk in the Banking Book Pension Risk Operational Risk Business Risk Reputational Risk Sustainability Risk Diversification

Banks must select the most appropriate metric for their specific case (operations, geo footprint, customers) but many of them simply select the most common risk metrics, rather than the most appropriate.

RAF METRICS: ECONOMIC CAPITAL (EC)

- EC is the amount of capital required to remain solvent and operate while under economic duress.
- EC reflects exposures including market, credit and operational risk.
- EC provides a forward-looking view of capital adequacy (usually 1 year).
- EC is typically modelled using the bank's internal credit rating; a historic look back period (typically 1 year) and management assumptions (e.g., correlated defaults).
- Insolvency risk is a function of the gap between available capital and EC
- Some of the concerns regarding EC concerns:
  - Predictive capabilities
  - EC and regulatory reform.
  - Economic capital results that are below regulatory capital.
  - The role of stress tests

RAF METRICS: RISK-ADJUSTED RETURN ON CAPITAL

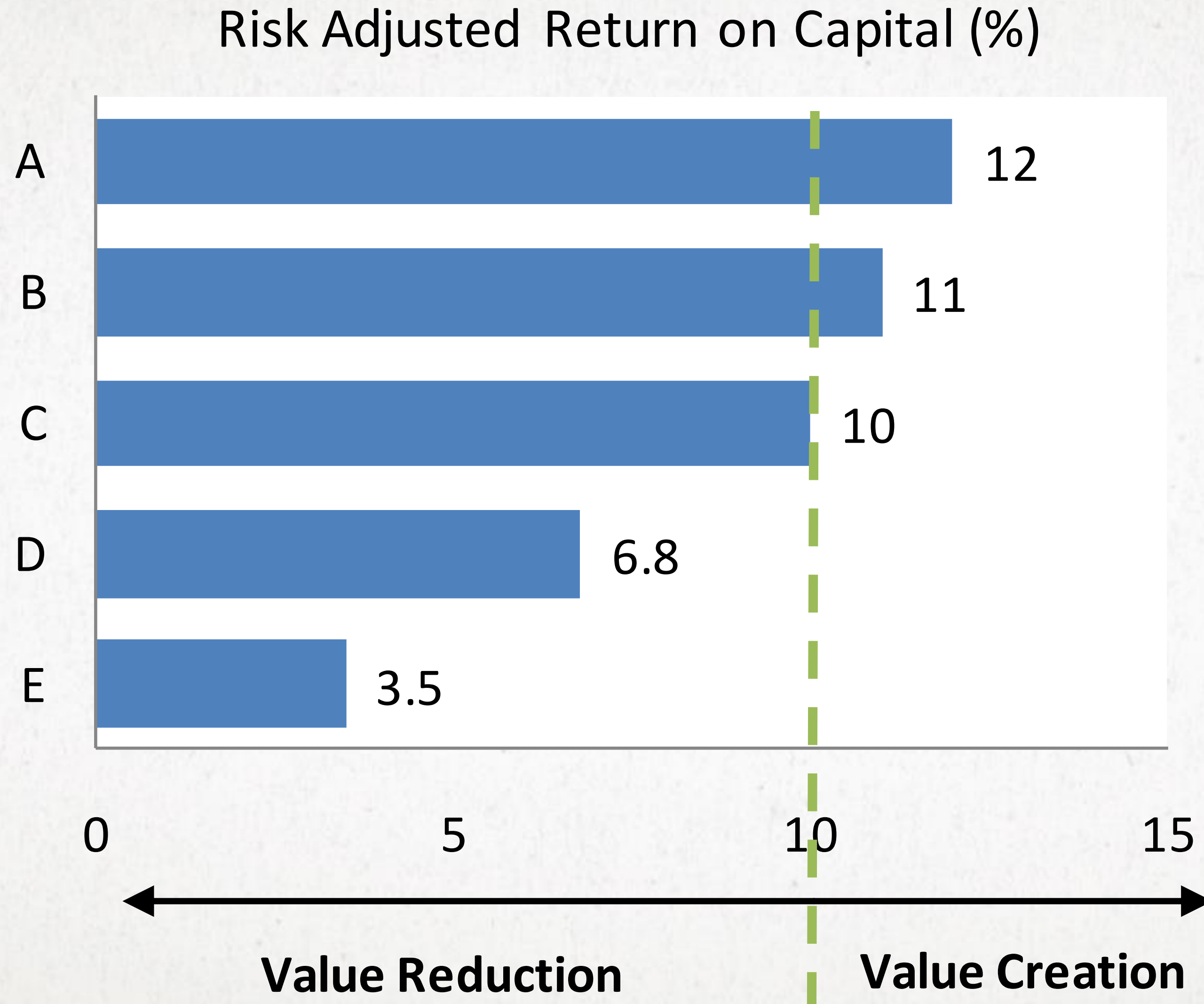
- RAROC = (Net income - Expected Loss) / Capital at Risk .

- RAROC is often used by banks to measure risk-adjusted profitability
  - RAROC measures the amount of return in excess of risk assumed
  - RAROC, unlike traditional margin metrics, introduces capital- at-risk in the denominator, thereby evaluating return as a function of risk assumed.

- While RAROC is seen as useful, the process required to calculate RAROC and the effort needed to define simplifying assumptions and allocations can impede the program’s development.

- RAROC implementation challenges include:
  - capital calculations and data
  - term definitions
  - start-up or growth businesses

RAF METRICS: RISK-ADJUSTED RETURN ON CAPITAL



RAF METRICS: THE PRACTICE

- Translating firm-level metrics to business line-level metrics is a must to prevent banks from unintended excessive risk-taking or failing to optimize risk and return.

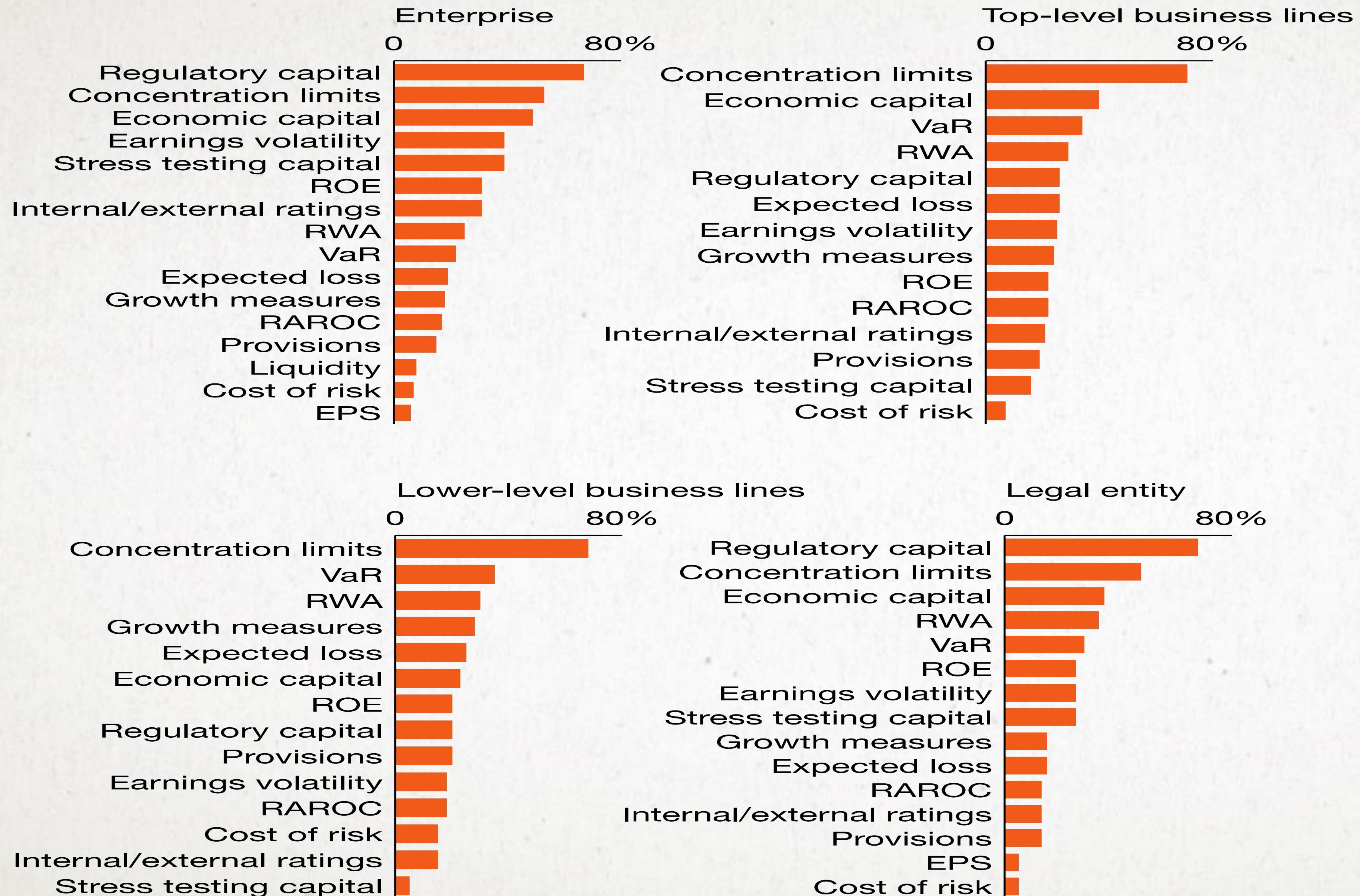
- If banks fail to translate higher-level quantitative risk appetite measures to lower-level business lines, they
  - should consider using more qualitative measures
  - should ensure that business line management is monitoring on-going alignment with enterprise risk appetite.

- Stress testing-driven regulatory capital requirements are the top binding metric at the enterprise and legal entity levels, but it is less applied as a binding constraint at the business line levels

- Heightened regulatory capital requirements (driven by new regulations) have led many banks to emphasize regulatory capital in their RAS

- However, economic capital remains a relevant element of banks' RAS

RAF METRICS: THE PRACTICE



Source:
IACPM-PWC, Risk Appetite Frameworks

RISK TYPES IN RAF

- Supervisory expectations lead banks to a comprehensive view of the bank's risk exposures.

- Banks usually start by included in the RAS the most traditional quantifiable risk types
  - credit risk, market risk, operational risk
  - funding risk, liquidity risk

- Then they work to include less quantifiable risk types
  - business risk,
  - reputation and conduct risk
  - regulatory and compliance risk

- For less quantifiable risks, the RAS:
  - leans on related policies and qualitative guidelines.
  - develops proxy metrics, where available.
    - e.g., reputational risk is quantified using proxies as brand health, customer-centric metrics, and employee satisfaction surveys.

RAF: RISK APPETITE VS. STRATEGIC GOALS

- Board and Board Committees should balance the natural tension between growth and risk objectives
  - growth goals are embodied in the strategic plan
  - risk objectives are part of the risk appetite statement

- Both the strategic plan and risk appetite statement are guided by a set of strategic and risk principles.

- Banks' board must develop an "integrated" and "coherent" framework by putting together four critical, and potentially conflicting, elements:
  - overall corporate strategy (owner of the proposal: CEO)
  - risk management strategy proposal (owner of the proposal: CRO)
  - capital and funding strategy (owner of the proposal: CFO)
  - pursuit of operational excellence

- Resolving the creative tension between them is perhaps the core responsibility of the executive committee to the board.

THE RISK APPETITE RISK LIMITS

- be set at a level to constrain risk-taking within risk appetite, taking into account the interests of customers (e.g. depositors, policyholders) and shareholders as well as capital and other regulatory requirements, in the event that a risk limit is breached and the likelihood that each material risk is realised;
- be established for business lines and legal entities as relevant and generally expressed relative to earnings, capital, liquidity or other relevant measures (e.g. growth, volatility);
- include material risk concentrations at the institution or group-wide, business line and legal entity levels as relevant (e.g. counterparty, industry, country/region, collateral type, product);
- although referenced to market best practices and benchmarks, should not be strictly based on comparison to peers or default to regulatory limits;
- not be overly complicated, ambiguous, or subjective; and
- be monitored regularly.

THRESHOLDS

- (At least) One threshold is assigned to each approved metric
- Thresholds can take many forms, depending on the metric's intent and management and/or external regulator(s) objectives.
- Each threshold type has a specific objective and business response. These include:
  - A risk limit (or dollar-stop loss, stop limit, or "kill" level)
  - A warning indicator
  - A management guide
- Most banks assign quantitative thresholds to each risk metric. Threshold design involves two distinct objectives;
  - determining enterprise-wide values and
  - allocating enterprise thresholds to business units or products.

ROLES AND RESPONSIBILITY IN THE RAF

- It is responsibility of the board of directors
  - to establish the bank-wide RAF
  - to approve the risk appetite statement, jointly developed by the CEO, the CFO and the CRO
- The CEO, CRO and CFO translate expectations into targets/constraints for business lines and legal entities
- The independent assessment of the financial institution's RAF is needed for the on-going monitoring and evaluation of the design and effectiveness of a bank's internal controls, risk management and governance
  - by internal audit,
  - by an external auditor
  - by other independent third party
- The strength of the relationships between the board, CEO, CRO, CFO, business lines and internal audit plays an instrumental role in the RAF's effectiveness.
  - distinct mandates and responsibilities for each of these levels of governance are essential.
- Banks should allocate precise roles and responsibilities in accordance with their organisational structure, but the oversight and control functions performed by the CEO, CRO, CFO, business line leaders, and internal audit always play a key role.

THE ROLE OF THE BOARD OF DIRECTORS – I/II

- approve the financial institution's RAF, developed in collaboration with the CEO, CRO and CFO, …
- ensure that the RAF remains consistent with the institution's short- and long-term strategy, business and capital plans, risk capacity as well as compensation programs;
- hold the CEO and senior management accountable for the RAF integrity, including the timely identification, management and escalation of breaches in risk limits and of material risk exposures;
- ensure that annual business plans are in line with the approved risk appetite and incentives/disincentives and are included in the compensation programs to facilitate adherence to risk appetite;
- assess the risk appetite in their strategic discussions, including decisions on M&A and internal growth;
- review and monitor the actual risk profile and risk limits against the agreed levels (e.g. by business line, legal entity, product, risk category), including qualitative measures of conduct risk;
- ensure that appropriate action is taken regarding "breaches" in risk limits;
- question senior management regarding activities outside the board-approved risk appetite statement, if any;

THE ROLE OF THE BOARD OF DIRECTORS – II/II

- obtain an independent assessment of the RAF design/effectiveness/alignment with supervisory indications
- satisfy itself that there are mechanisms in place to ensure senior management can act in a timely manner to effectively manage, and where necessary mitigate, material adverse risk exposures;
- discuss with supervisors decisions regarding the establishment and on-going monitoring of risk appetite or regulatory expectations regarding risk appetite;
- ensure adequate resources and expertise are dedicated to risk management as well as internal audit in order to provide independent assurances to the board and senior management that they are operating within the approved RAF, including the use of third parties to supplement existing resources where appropriate; and
- ensure risk management is supported by adequate and robust IT and MIS to enable identification, measurement, assessment and reporting of risk in a timely and accurate manner.

THE ROLE OF THE CEO

a) establish an appropriate risk appetite for the financial institution (in collaboration with the CRO and CFO)

b) be accountable, together with the CRO, CFO, and business lines for the integrity of the RAF, including the timely identification and escalation of breaches in risk limits and of material risk exposures;

c) ensure, jointly with the CRO and CFO, that the risk appetite is translated into risk limits for business lines and legal entities and that they incorporate risk appetite into their strategic/financial planning, decision-making process & compensation decisions;

d) ensure that the institution-wide risk appetite statement is implemented by senior management through consistent risk appetite statements or specific risk limits for business lines and legal entities;

e) provide leadership in communicating risk appetite to internal and external stakeholders so to embed appropriate risk taking into the financial institution's risk culture;

f) set the proper tone and example by empowering/supporting the CRO and CFO in their responsibilities, and effectively incorporating risk appetite into their decision-making processes;

g) ensure business lines and legal entities have appropriate processes in place to effectively identify, measure, monitor and report on the risk profile relative to established risk limits on a continual basis;

h) dedicate sufficient resources/expertise to RM, audit and IT infrastructure to help provide effective oversight of adherence to the RAF;

i) act in a timely manner to ensure effective management, and where necessary mitigation, of material risk exposures, in particular those that are close to or exceed the approved risk appetite statement and/or risk limits; and

j) establish a policy for notifying the board and the supervisor of serious breaches of risk limits and unexpected material risk exposures.

THE ROLE OF THE CRO

a) develop an appropriate risk appetite for the bank (jointly with the CEO and CFO), meeting the banks needs and being aligned with supervisory expectations;

b) obtain the board approval of the developed risk appetite

c) actively monitor the bank risk profile relative to its risk appetite, strategy, business and capital plans, risk capacity, regularly report to the board on the bank's risk profile relative to risk appetite;

d) ensure the integrity of risk measurement process/IS used to monitor the bank's risk profile vs. risk appetite;

f) propose, in collaboration with the CEO and CFO, appropriate risk limits for business lines and legal entities that are prudent and consistent with the financial institution's risk appetite statement;

g) independently monitor business line and legal entity risk limits and the banks' aggregate risk profile to ensure they remain consistent with the overall risk appetite;

h) act in a timely manner to ensure effective management, and where necessary mitigation, of material risk exposures, in particular those that are close to or exceed the approved risk appetite and/or risk limits; and

i) escalate promptly to the board and CEO any material risk limit breach that places the bank at risk of exceeding its risk appetite and of putting in danger its financial condition

THE ROLE OF THE CFO

a) develop an appropriate risk appetite for the financial institution (in collaboration with the CEO and CRO) which is consistent with the institution's short- and long- term strategy, business and capital plans, risk capacity, as well as compensation programs;

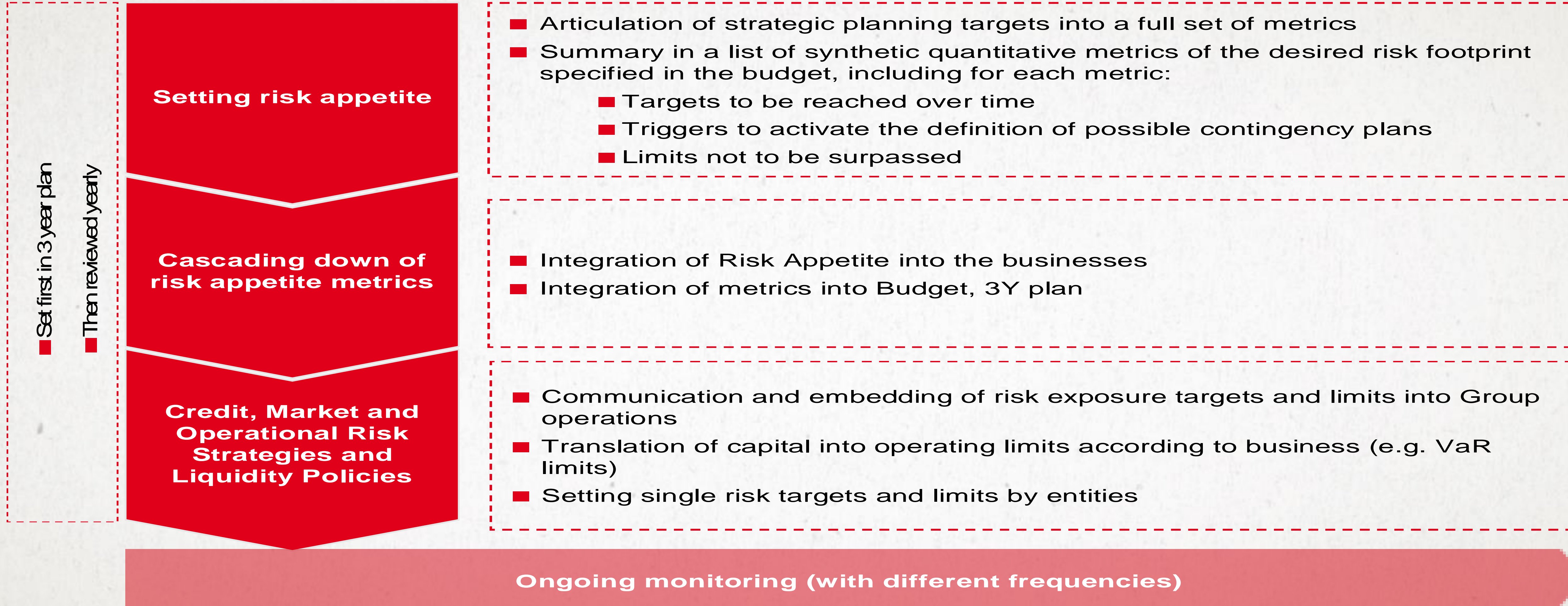
b) incorporate risk appetite into the financial institution's compensation and decision-making processes (in collaboration with the CEO and CRO), including business planning, new products, mergers and acquisitions, and risk assessment and capital management processes

c) work effectively with the CRO and CEO to establish, monitor and report on adherence to applicable risk limits;

d) act in a timely manner to ensure effective management, and where necessary mitigation, of material risk exposures, in particular those that are close to or exceed the approved risk appetite and/or risk limits within the CFO function; and

e) escalate promptly to the CEO and the board (if appropriate) breaches in risk limits and material risk exposures that would put in danger the institution's financial condition.

THE CASE OF UNICREDIT



Source: Unicredit, Annex 1: Further information on principle 17

RAF IMPLEMENTATION: FOREIGN CASES

- HSBC assigns quantitative and qualitative metrics are assigned to the following key categories:
  - earnings,
  - capital,
  - liquidity & funding,
  - securitisations,
  - cost of risk,
  - intragroup lending,
  - strategic investments,
  - risk categories
  - risk diversification
  - risk concentration.

- BNP assigns qualitative and quantitative metrics to the following key categories:
  - risk adjusted profitability and growth
  - capital adequacy
  - funding and liquidity
  - concentration

Source: HSBC Bank PLC, Report of the Directors, 2015

RAF: INTESA SANPAOLO – I/II

- General principles governing the Group's risk-acceptance strategy:
  - focused on a commercial business model in which domestic retail activity its the Group's structural strength;
  - no aim to eliminate risks, but rather attempts to understand and manage them to ensure an adequate return for the risks taken, while guaranteeing the Company's solidity and business continuity in the long term;
  - moderate risk profile in which capital adequacy, earnings stability, a sound liquidity position and a strong reputation are the key factors for its current and prospective profitability;
  - aim at a capitalization level in line with its main European peers;
  - maintain strong management of its main specific risks (not associated with macroeconomic shocks)
  - great importance to the monitoring of non-financial risks, and in particular:
    - it adopts an operational risk assumption and management strategy geared towards prudent management
    - it establishes specific limits and early warnings,
    - it aims for formal/substantive compliance to avoid penalties and maintain solid trust with its stakeholders;
    - it ensures formal/substantive compliance with the provisions in terms of legal liability with the aim of minimizing claims and proceedings that it is exposed to and that result in outlays.
    - it actively manages its image in the eyes of all stakeholders and seeks to prevent and contain any negative effects on its image, including through robust, sustainable growth capable of creating value for all stakeholders.

RAF: INTESA SANPAOLO – II/II

Management of overall risk in the RAF framework is aimed at maintaining adequate levels of:

- **capitalization** even under severe macroeconomic stress, in relation to Pillar 1 and 2 requirements
  - by monitoring the CET1, the Total Capital Ratio, the Leverage Ratio and the Risk Bearing Capacity;
- **liquidity,** sufficient in extended periods of tension on the various funding sourcing markets, with regard to both the short-term and structural situations,
  - by monitoring the internal limits of the LCR, NSFR, Funding/Lending Gap and Asset Encumbrance;
- **earnings stability**
  - by monitoring the (adjusted) net income and operating costs, main potential causes for their instability;
- **management of operational and reputational risk**
  - so as to minimize the risk of negative events that jeopardize the Group's economic stability and image.

The main specific risks monitored are:

- the individual risks that make up the Group's overall risk profile and whose operating limits, as envisaged in specific policies, complete the Risk Appetite Framework.
- especially significant risk concentrations (e.g., concentration on individual counterparties, sovereign risk, commercial real estate);

RAF: INTESA SANPAOLO CRA

- A specific Credit Risk Appetite Framework (CRA) had already been established in 2015.
- The CRA identifies areas of growth for loans and areas to be monitored, using an approach based on ratings and other useful predictive statistical indicators, to guide lending growth by optimizing the management of risk and expected loss.
- The CRA is implemented with binding instructions for the credit process by setting specific limits on the maximum tolerated risk for the riskiest transactions.
- The limits set are approved within the RAF and are continuously monitored by the Credit Risk Management Head Office Department.
- The framework was further extended to Divisions and Group companies, allocating specific limits to the:
    - extent of the risks assumed (in terms of capital requirements, total assets, and contribution to Group earnings);
    - specific nature of the business model (e.g. Banca IMI);
    - presence of local regulations (International Subsidiary Banks) or industry sector regulations (e.g. companies in the insurance segment).

CONCLUSIONS

- The RAF is an essential component for effective risk governance.
- RAF implementation is more than a regulatory exercise.
- Its implementation should be as broad as possible, with risk appetite considerations woven into all relevant aspects of the firm.
- Industry practices are divergent with respect to operationalizing different elements of the RAF and linking it to other governance, management, and business processes.
- Developing and implementing an effective RAF does not require institutions to develop an entirely new set of processes and practices.
- Rather, banks should leverage and strengthen existing capabilities that are used to manage the enterprise.
- Successful implementation of the RAF is enabled by strong risk culture, effective risk policies, appropriate analytics, and reliable data.
- Allocating risk appetite below the enterprise level is challenging, varies widely across institutions, and is driven by multiple factors, including complexity of business mix and maturity of the RAF.