Risk Appetite, Risk Tolerance, Risk Targets, Risk Limits
Communication Through the Organization

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What is Risk Appetite and why does it matter now?

Risk Appetite is defined as the amount and type of risk that an organization is prepared to pursue, retain or take.

Risk Tolerance is narrower in scope than risk appetite, and sets acceptable levels of variation around business objectives.

“Many banks indicated that establishing a risk appetite and tolerance statement was more challenging for operational risk than for other risk categories such as credit and market risk, and attributed this to the nature and pervasiveness of operational risk.”

What is risk appetite and why does it matter now?

Objective of Risk Appetite

— Global financial crisis has demonstrated clearly that many banks lacked a proper understanding of their true risk profile and realized too late that it was not in line with their desired risk profile

— Forced senior management to explain losses that were a multiple of what shareholders had expected to face

— Lesson Learned – financial institutions need to have a comprehensive risk appetite framework in place that helps them better understand and manage their risks by translating risk metrics and methods into strategic decisions, reporting, and day-to-day business decisions

— Risk appetite is the core instrument for better aligning overall corporate strategy, capital allocation, and risk

— A comprehensive risk appetite framework is the cornerstone of a new risk management architecture
A comprehensive risk appetite framework is embedded in the corporate strategy and risk culture of the bank

Five elements of a Risk Appetite framework

1. Stakeholder objectives

2. Corporate Strategy
   - Corporate Level
     - Business Portfolio Decisions (strategic/non-strategic)
     - Key Performance Indicators
     - Corporate Level Risk Tolerances

3. Corporation Risk Culture
   - Business Unit Level
     - Risk Tolerances per Risk Category
       - Credit Risk
       - Financial Risk
       - Operational Risk
       - Reputational Risk
       - Other Risk

4. Capabilities
   - Measurment Infrastructure & Indicators
   - Reporting & Monitoring Infrastructure
   - Policies & Guidelines
   - Accountabilities & Consequences

5. Risk Appetite Process
   - Set Risk Appetite
   - Embed Risk Appetite
   - Monitor Risk Appetite/Mitigate Risks
   - Revise Risk Appetite
Regulators and rating agencies now require banks to align various stakeholder objectives to better balance strategy, capital, and risk.

Conversion of stakeholder objectives into KPIs

- In the past, alignment with stakeholder objectives centered on strategy and capital; now risk is also a key consideration.
- Each stakeholder objective will have a different influence on the optimal trade-offs among capital, risk, and strategy.
- KPIs translate stakeholder objectives into a metric that can be measured and managed.
- Potential KPIs include: Capital Adequacy; Earnings Volatility, Shareholder Value (eg RAROC, EPA), Reputation, and Creditworthiness.
Once a core set of KPIs are defined in alignment with stakeholder objectives, those KPIs must be translated into measurable categories. For example, capital adequacy can be measured by looking at these three ratios:

- Tier 1 Common Capital/Risk-Weighted Assets
- Tier 1 Total/ Risk Weighted Assets
- Tier 1 Total/ Economic Capital

Next, risk appetite levels need to be set, and risk tolerances established, for the core KPIs. Senior management and the board need to review and approve both risk appetite and tolerances for selected KPIs.

Key performance indicators

<table>
<thead>
<tr>
<th>Potential KPIs</th>
<th>Risk level</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Adequacy (eg Tier 1 capital/economic capital)</td>
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<tr>
<td>Earnings Volatility (eg % Earnings at Risk per annum)</td>
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<tr>
<td>Shareholder Value (eg RAROC or EPA)</td>
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<td>Creditworthiness (eg S&amp;P long-term debt rating)</td>
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<td>Regulatory Standing (eg Camel)</td>
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<tr>
<td>Reputation (eg Reputation index)</td>
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</table>

- Within tolerance
- Slightly out of tolerance
- Out of tolerance
The desired risk appetite helps facilitate business portfolio decisions based on a comparison of risk-return profiles.

For each business:

— Are there clear intentions (continue, review, or divest)?
— Should it be grown, contracted, or maintained?
— Should its risk be increased, decreased, or maintained?
— Should controls be increased, decreased, or maintained?

Key performance indicators

![Diagram showing various business units and their placement on a risk-return matrix]

- **Relative Return**
  - Low
  - High

- **Relative Risk**
  - Low
  - High

- **Retain businesses**
- **Review businesses’ performance**
- **Review against risk appetite**

Note: Size of the bubble indicates net profit (2008) of business unit. Lighter blue in bubble shading indicates medium- high risk or high-risk businesses.
For specific risk management purposes, risk appetite and tolerances are defined for all major risk categories.

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**Corporate-Level Risk Appetite and Tolerances**

<table>
<thead>
<tr>
<th>Risk categories</th>
<th>Risk level</th>
<th>Economic Capital Allocated (in % of Total EC)</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low 1</td>
<td>Medium 2</td>
<td>Medium 3</td>
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<tr>
<td>Credit Risk</td>
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<tr>
<td>Financial Risk</td>
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<tr>
<td>— Market Risk</td>
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<td>— Interest Rate Risk</td>
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<td>— Liquidity Risk</td>
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<td>— Counterparty Risk</td>
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<tr>
<td>Operational Risk</td>
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<tr>
<td>— Operational Risk</td>
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<td>— Compliance Risk</td>
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<td>— Corporate Security Risk</td>
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<td>— Technology Risk</td>
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<tr>
<td>Reputation Risk</td>
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<tr>
<td>Other Risks</td>
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<tr>
<td>— Strategic Risk</td>
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<tr>
<td>— Legal Risk</td>
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- Risk appetite is usually expressed in risk measures (e.g., value at risk), nominal measures (e.g., $ amount of credit outstanding), or outcomes (e.g., capital level).
- Efforts to manage risk appetite and risk tolerance will necessarily focus on those risk categories that have the highest percentage of total economic capital allocated to them.
- Aggregation of risk tolerances ensures that the bank operates in line with its desired overall risk appetite.
Management of Risk Appetite

Risk Appetite is defined, implemented and monitored across three levels of control:

1. Risk Appetite Plan & Limit setting approved by Management Board and Group Risk Committee or respective legal entity governance bodies

   - using metrics sensitive to material risks to which Deutsche Bank is exposed to and function as indicators of financial health

   - addressing Capital Adequacy and Liquidity calibrated based on regulatory requirements

2. Divisional & Business Unit controls established, cascaded down from overall risk appetite & strategy

3. Risk Type risk appetite managed across multiple dimensions:

   - Transaction Level Approval within the defined appetite framework across risk types and asset classes

     A transaction must fit within all limits & strategies on all three levels (group & legal entity level, where similar framework is in place addressing legal entity specifics)
Management of Risk Appetite (continued)

Risk Appetite is defined, implemented and monitored across three levels of control

Cascading of targets & limits into businesses

— Targets/limits for RWA & CRD4 (respective key risk inputs for the CET1 & Leverage ratios) are cascaded to divisions / business units via the Strategic Plan

— 1st LoD responsible to stay within set limits; monitored & overseen by 2nd LOD

— Limits are updated during the year depending on the reallocation of resources or changes to group targets

— Complemented by risk type specific limits (eg Market Risk Limits that cascade down into businesses)

Key Group Risk Appetite Metrics

Limit Metrics

Group

Plan Target / Limit

Plan Target

Division

Plan Target / Limit

Business Unit

Plan Target / Limit
### Examples of operational risk appetite quantitative measures

<table>
<thead>
<tr>
<th>Examples of quantitative measures</th>
<th>Characteristics</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected loss measures</td>
<td>Describes operational risk appetite in terms of the amount of losses that the institution is willing to incur in the normal (or expected course of business)</td>
<td>Management is willing to accept non-exceptional operational risk event losses to a maximum of x% of revenue</td>
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<tr>
<td>Unexpected loss measures</td>
<td>Describes operational risk appetite in terms of the amount of losses that the institution is willing to incur above a certain (high) threshold</td>
<td>Management is not willing to accept any single loss greater than $x_m$, or combination of y losses in a quarter in excess of $z_m$</td>
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<tr>
<td>Operational limits</td>
<td>Describes operational risk appetite in terms of an amount of activity (for instance in the form of a process throughput measure) that management is willing to accept (‘safe rate of speed’)</td>
<td>We are not prepared to process more than x account openings on any single day</td>
</tr>
<tr>
<td>Operational risk capital</td>
<td>Describes operational risk appetite in terms of the amount of operational risk capital that management is willing to see attributed to a business or an activity</td>
<td>A maximum of x% of total regulatory capital is permitted to be allocated to operational risk in this business</td>
</tr>
</tbody>
</table>
Specific capabilities are required to successfully implement and manage a risk appetite framework

### Capability requirements

| Measurement Infrastructure & Indicators | At the corporate level, develop a comprehensive set of KPIs and high-level tolerances for all risk categories |
| Reporting & Monitoring Infrastructure | Develop a high-level corporate risk appetite and tolerances dashboard for senior management and board as well as individual dashboards for major business units with detailed appendices, covering all relevant risk categories |
| Policies & Guidelines | Risk appetite and tolerance adherence needs to be consistently embedded in all risk-related policies and guidelines |
| Accountabilities & Consequences | Define clear responsibility for setting, approving, and reviewing risk appetite and tolerances |

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Once the risk appetite is set, it needs to be embedded, and then continuously monitored and revised.

Ongoing risk appetite process

**Set risk appetite**
- Set desired risk appetite by considering:
  - Business strategy
  - Economic conditions
  - Ensure alignment with business strategy
  - Obtain board signoff of risk appetite statement

**Embedded risk appetite**
- Cascade the risk appetite down through the bank:
  - At the portfolio level
  - At the BU level within portfolios (e.g., for retail, corporate, investment banking)
- Align compensation and culture with risk appetite
- Embed governance

**Monitor risk appetite/mitigate risks**
- Regularly monitor as-is risk profile against the risk appetite
- Support monitoring with:
  - Relevant infrastructure
  - Appropriate processes
  - Mitigate unwanted risks

**Revise risk appetite**
- Review risk appetite in light of:
  - Changing business and economic conditions
  - Evolving group- and portfolio-level strategic priorities
  - Changing competitive conditions

**Key activities**
- Clearly defined risk appetite statement containing both qualitative and quantitative elements
- Risk appetite that is defined at the most granular level possible while still remaining actionable

**Output**
- Clearly defined risk appetite statement by all executives:
  - At the portfolio level
  - At the BU level within portfolios
- Buy-in from executives to run their businesses in line with the risk appetite
- Risk profile reports containing:
  - Assessment of risk profile against risk appetite
  - Mitigating actions to align risk profile with risk appetite
  - Other key findings

— Revised risk appetite statement