A Risk Appetite Framework in Central Banking – some thoughts

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Central Banking • Risk Management

BANCO DE PORTUGAL
EUROSYSTEM

N.B.: Information is conveyed under the Chatham House Rule.

Agenda

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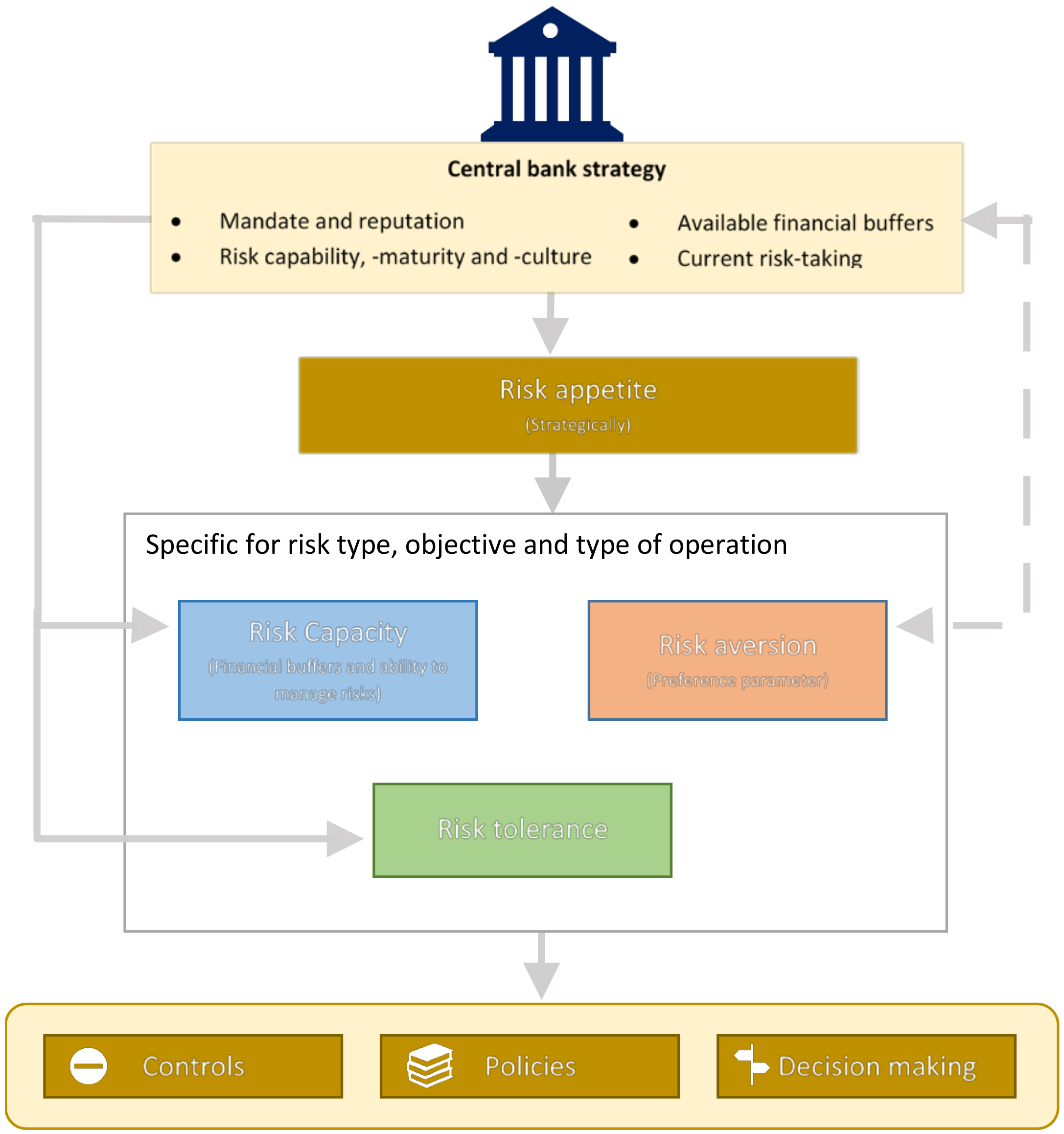
1. Why a risk appetite framework in a central bank?

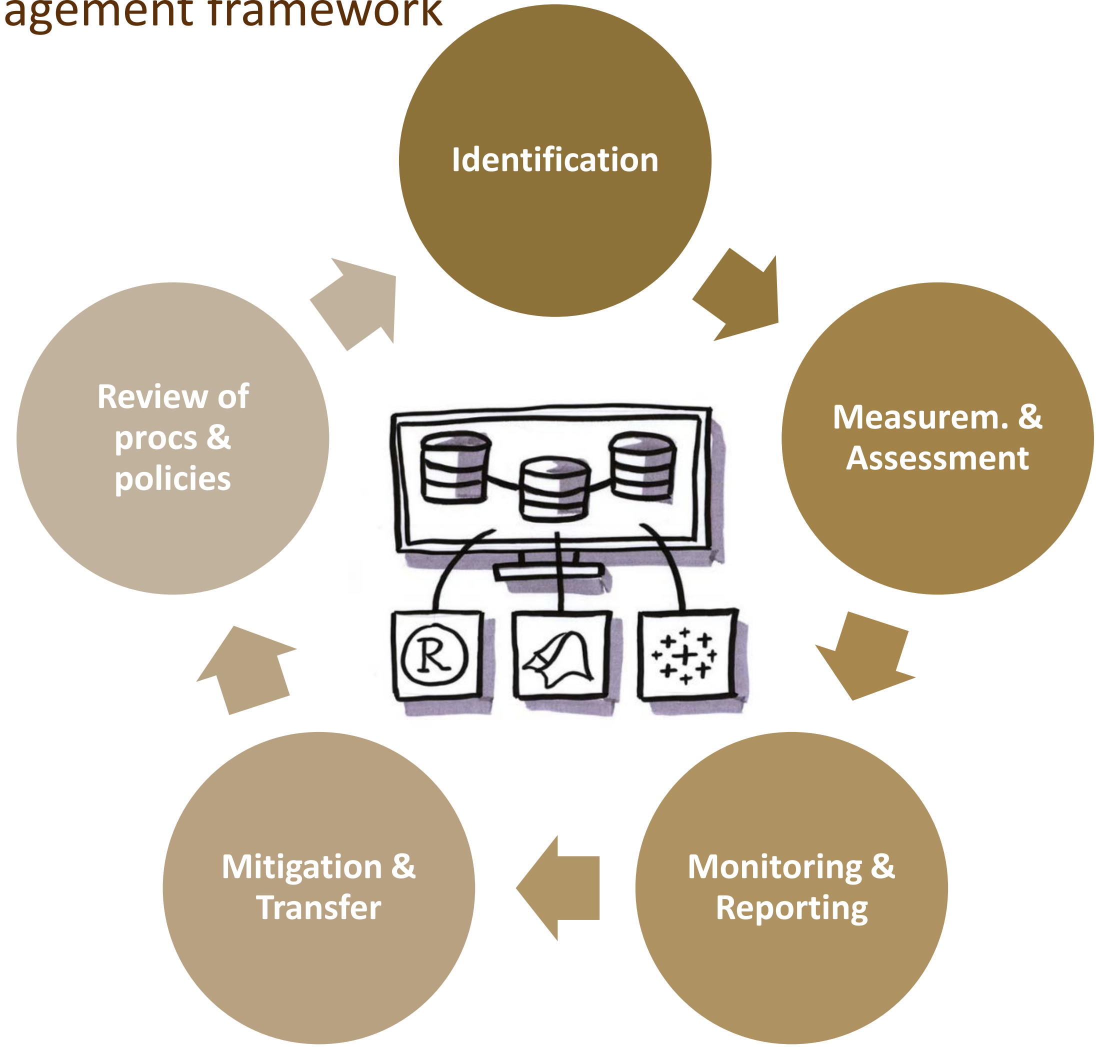
A ‘stylised’ governance structure of a central bank – the risk management dimension



1. Why a risk appetite framework in a central bank? (cont.)

Elements of a risk management framework

- Risk capacity/ tolerance
- Risk aversion
- Risk man. maturity
- Risk culture



- Definition of roles
- Reporting lines
- Internal policies
- Risk committee

1. Why a risk appetite framework in a central bank? (cont.)

A set of definitions…

- *"The amount and type of risk that an organisation is willing to take in order to meet their strategic objectives. Organisations will have different risk appetites depending on their sector, culture and objectives. A range of appetites exist for different risks and these may change over time."* – Institute of Risk Management

- *"The articulation in written form of the aggregate level and types of risk that a financial institution is willing to accept, or to avoid, in order to achieve its business objectives."* – Financial Stability Board

- *"The aggregate level and types of risk a bank is willing to assume, decide in advance and within its risk capacity, to achieve its strategic objectives and business plan."* – Basel Committee on Banking Supervision

- *"(…) is a formal document that provides an overview of how much risk an organization is willing to accept. Its guidelines reflect the Bank's risk management approach as it aligns with the Bank values and strategic initiatives."* – Federal Reserve of Philadelphia

1. Why a risk appetite framework in a central bank? (cont.)

Why a risk appetite?

- ✓ Risk appetite helps guide strategic management, forces consideration of specific risk objectives
- ✓ Strengthens governance and compliance
- ✓ Ensures risk informed decision making
- ✓ Signalling impact; practice what is preached from Regulation and Conduct perspective
- ✓ There may be a requirement for a Risk Appetite Framework (formal Code/Practice)
- ✓ Start, iterate and refine the risk appetite over time, focused initially on most material risk categories
- ✓ Link to data analytics, ability to accurately capture / interpret data for risk tolerances

1. Why a risk appetite framework in a central bank? (cont.)

Typical implementation steps

	1 Set risk appetite	2 Embed risk appetite	3 Monitor risk appetite/mitigation	4 Revise risk appetite
Key activities	Set risk appetite considering: ▪ *Business strategy* ▪ *Economic conditions* Obtain board signoff of RAS	Cascade the risk appetite down through the bank: ▪ *At the portfolio level* ▪ *At the BA's level* Align compensation and culture with risk appetite Embed governance	Regularly monitor 'as-is' risk profile against risk appetite. Support monitoring with: ▪ *Relevant IT/DM infrastructure* ▪ *Appropriate processes* Mitigate unwanted risks	Review risk appetite in light of: ▪ *Changing business, competitive and economic conditions* ▪ *Evolving group- and portfolio- level strategic priorities*
Output	Clearly defined RAS containing both qualitative and quantitative elements Risk appetite that is implemented at the most granular level possible while still remaining actionable	Risk profile reports containing: ▪ *At the portfolio level* ▪ *At the BA's level* Buy-in from executives to run their BAs in line with the risk appetite	Risk profile reports containing: ▪ *Assessment of risk profile against risk appetite* ▪ *Mitigate actions to align risk profile w/ risk appetite* ▪ *Other key findings*	Revised RAS

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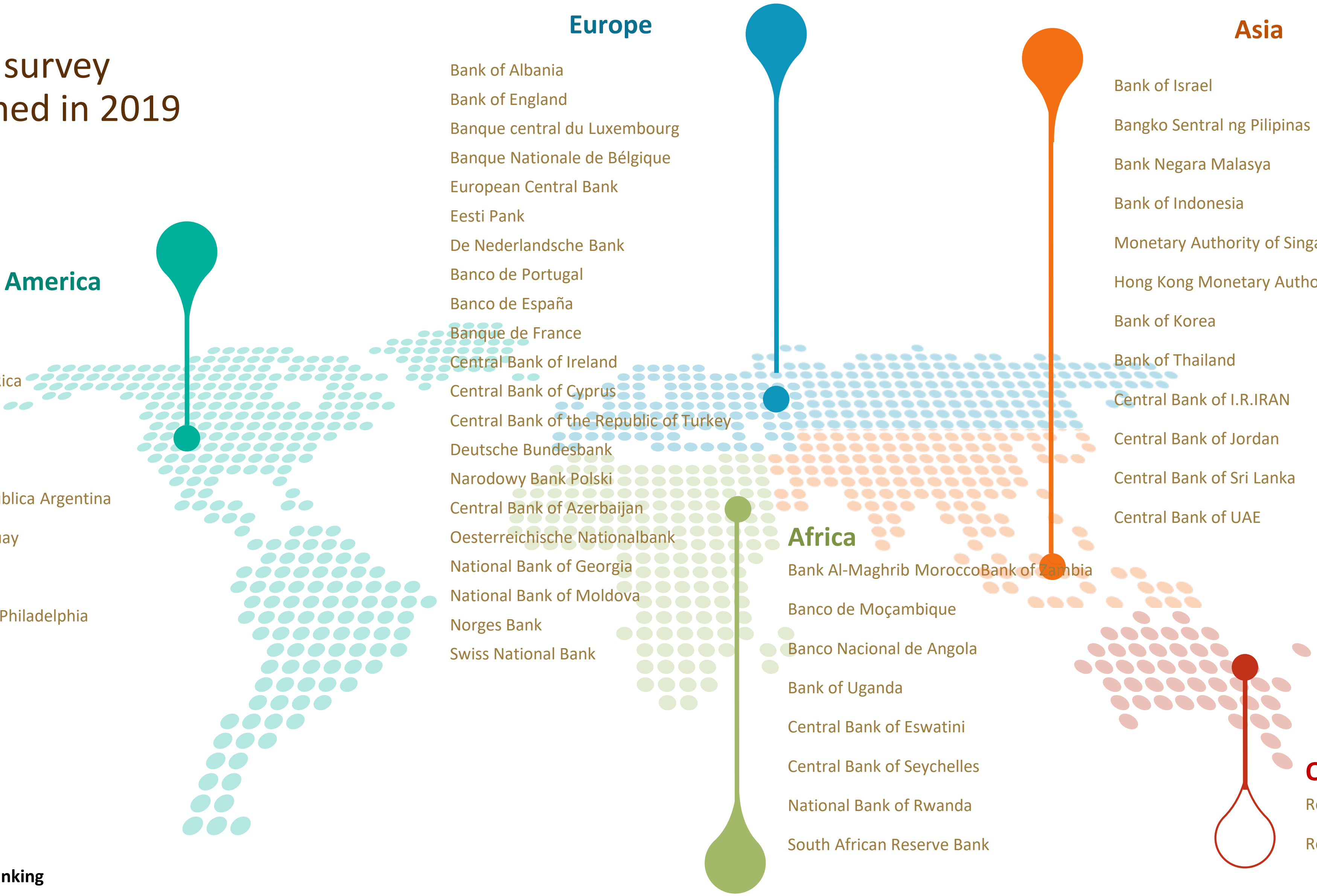
2. How central banks are tackling this issue?

IORWG survey performed in 2019



America

- Banco de Mexico
- Banco Central de Costa Rica
- Banco Central do Brasil
- Banco Central de Chile
- Banco Central de la República Argentina
- Banco Central del Paraguay
- Bank of Suriname
- Federal Reserve Bank of Philadelphia

Europe

- Bank of Albania
- Bank of England
- Banque central du Luxembourg
- Banque Nationale de Bélgique
- European Central Bank
- Eesti Pank
- De Nederlandsche Bank
- Banco de Portugal
- Banco de España
- Banque de France
- Central Bank of Ireland
- Central Bank of Cyprus
- Central Bank of the Republic of Turkey
- Deutsche Bundesbank
- Narodowy Bank Polski
- Central Bank of Azerbaijan
- Oesterreichische Nationalbank
- National Bank of Georgia
- National Bank of Moldova
- Norges Bank
- Swiss National Bank

Asia

- Bank of Israel
- Bangko Sentral ng Pilipinas
- Bank Negara Malasya
- Bank of Indonesia
- Monetary Authority of Singapore
- Hong Kong Monetary Authority
- Bank of Korea
- Bank of Thailand
- Central Bank of I.R.IRAN
- Central Bank of Jordan
- Central Bank of Sri Lanka
- Central Bank of UAE

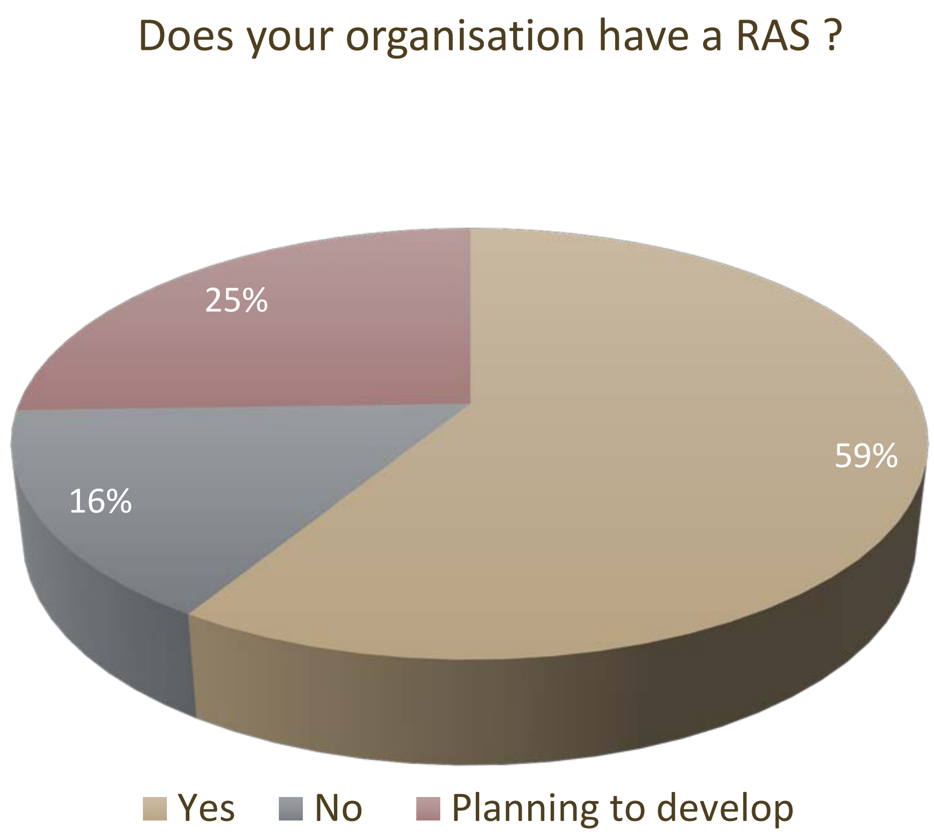
Africa

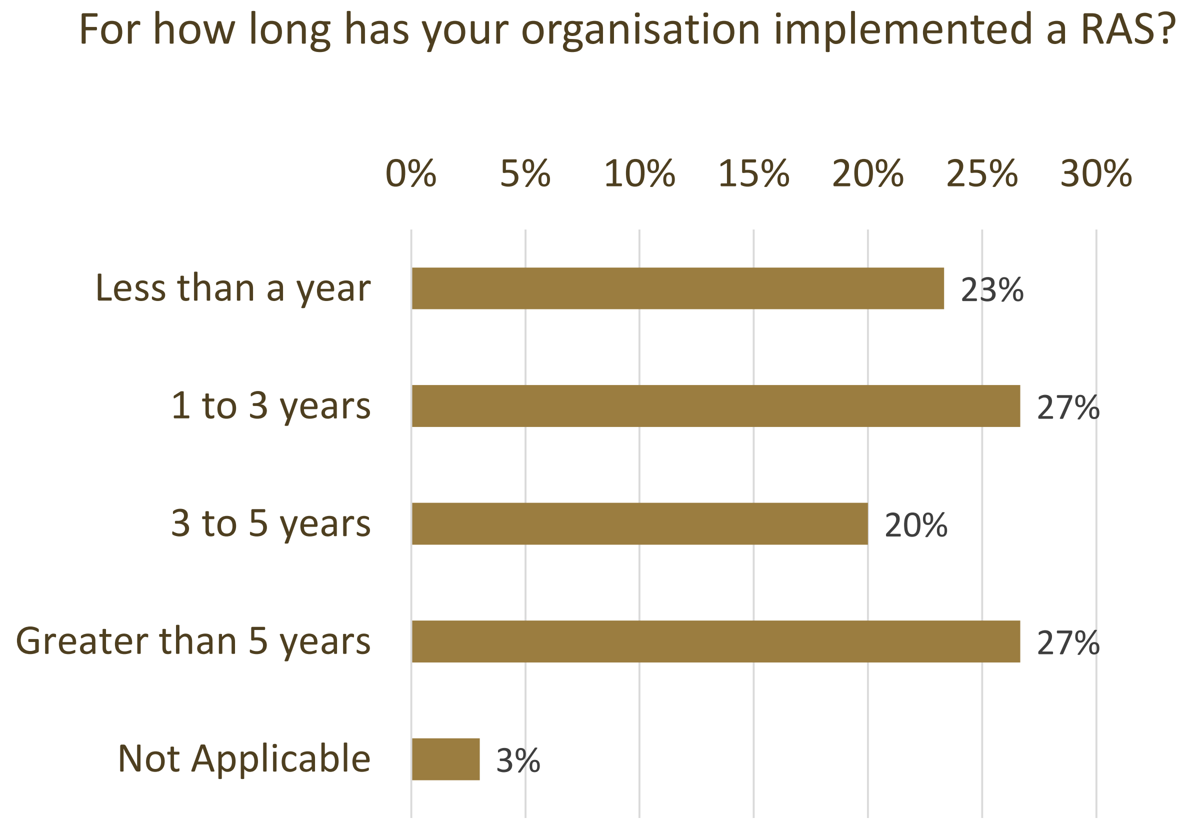
- Bank Al-Maghrib MoroccoBank of Zambia
- Banco de Moçambique
- Banco Nacional de Angola
- Bank of Uganda
- Central Bank of Eswatini
- Central Bank of Seychelles
- National Bank of Rwanda
- South African Reserve Bank

Oceania

- Reserve Bank of Australia
- Reserve Bank of New Zeeland

2. How central banks are tackling this issue? (cont.)

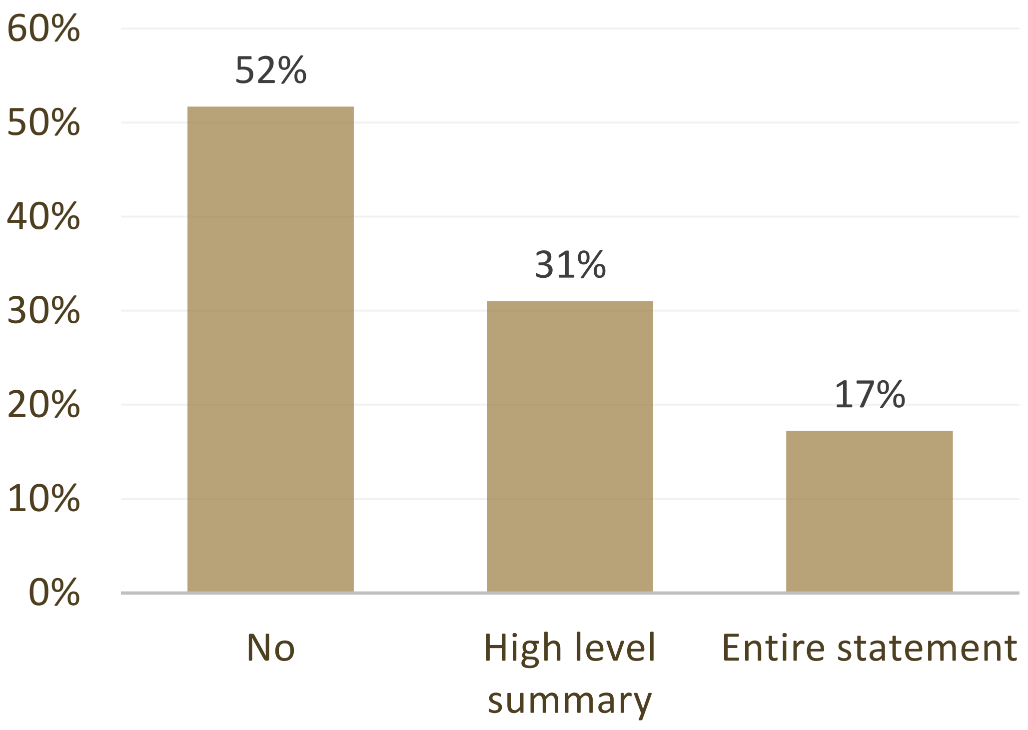




Universe "Yes" (29 CBs)

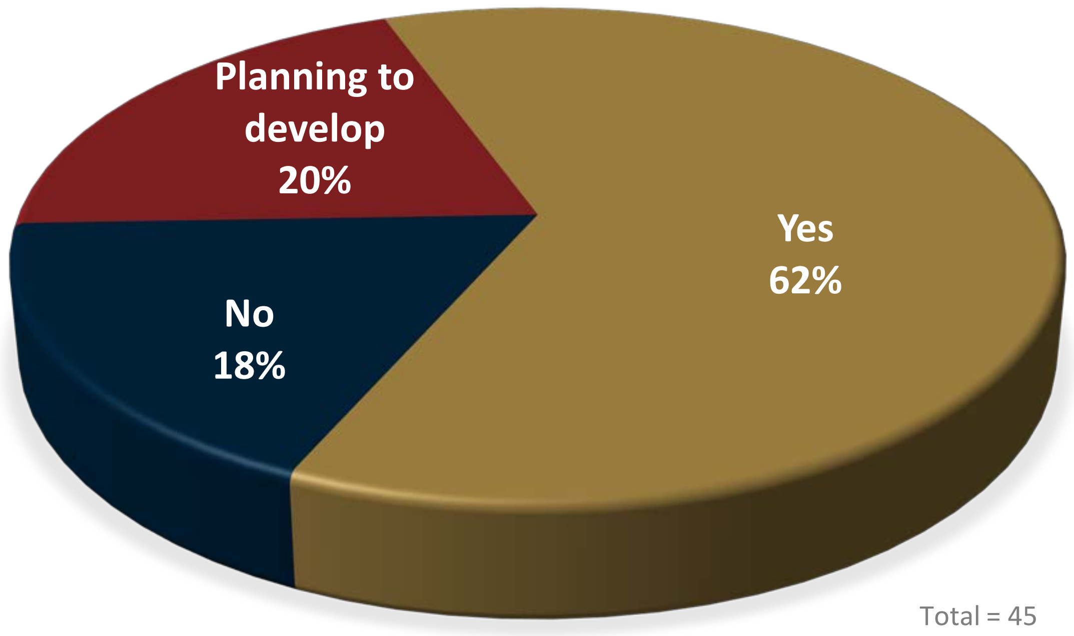
2. How central banks are tackling this issue? (cont.)

Is the risk appetite statement publicly available in the organisation's *website*?



Total = 29

Did the organisation define risk tolerance measures?



Total = 45

2. How central banks are tackling this issue? (cont.)

Risk categorias with risk tolerance measures

- Business Continuity
- Credit Risk
- Information Security
- Trading Desk
- Reputation
- Human Resources
- Strategic
- Supervision
- Other
- Innovation

Total = 33

- Operational risks
- Fraud and corruption
- Physical security
- IT project risks
- Legal risk
- Banknote
- All risks

2. How central banks are tackling this issue? (cont.)

Pros	Cons
▪ Increases transparency of the organization with our stakeholders and attitude ▪ Increases transparency of the organization with our stakeholders and attitude ▪ Demonstrates the Bank's commitment to risk management and effective practices ▪ Public commitment, recognition of risk awareness ▪ Convert attitude (or implicit RAS) into explicit statement to support effective governance review	▪ The statement could be misunderstood by stakeholders, or critics, of the organization ▪ A public RAS can unduly 'limit' the degrees of freedom in case of bold policy actions are needed ▪ Inconsistencies in the implementation of the 'three-lines of defence' model across the board can hamper its effectiveness in practice ▪ Risk in communicating breaches

2. How central banks are tackling this issue? (cont.)

A **typical structure** of a RAS includes the following elements:

i. A mission declaration and scope
ii. An explanation of the respective main objectives
iii. Relevant risk typologies
iv. Relevant metrics and the indicators to assess the compliance with the risk budget or monitoring benchmarks

- In general, a wide range of **risk typologies** are considered, namely strategic, financial, legal, operational, information & physical security.
- The public communicated RASs are **abridged versions** of the internal approved RAS, being more of high-level (and qualitative) nature.
- Typically, the RASs take the over-arching risk management objectives and propose **quantitative** and/or qualitative **metrics** for each objective.
- The RAS is subject to a **periodic 'fine tuning'** to cope with the update of the strategic planning (e.g. every 3 years).

2. How central banks are tackling this issue? (cont.)

CBI's RAS introductory section (abridged version)

"The **mission** of the Central Bank of Ireland is to safeguard financial stability and protect consumers.

In fulfilling its mission, the Bank is exposed to a very **broad range of risks** which arise as a consequence of performing its duties within the domestic financial sector and as a member of the European System of Central Banks (hereafter 'Eurosystem').

In support of effective governance and risk-informed decision-making, the Commission of the Central Bank of Ireland has set out a **risk appetite statement** for those risks which, to a lesser or greater extent, are within its control to mitigate and manage. The risk appetite statement specifies the **amounts and types of risk** the Bank is willing to accept in fulfilling its mandate and informs policies on the allocation of accountabilities and resources to managing its risk exposures.

The **risk appetite** contributes to the Central Bank of Ireland's (the 'Bank') commitment to uphold the highest standards of governance and professional conduct, consistent with maintaining credibility with its broad-ranging stakeholder groups and in full compliance with applicable legal and regulatory obligations."

2. How central banks are tackling this issue? (cont.)

BoC's RAS introductory section (abridged version)

"The Bank's mandate is to promote the economic and financial welfare of Canadians. We pursue our **mandate** by keeping inflation low, stable and predictable, fostering a safe and efficient financial system, serving as fiscal agent to the Government of Canada, and providing Canadians with bank notes they can use with confidence. Our vision is to be a leading central bank – dynamic, engaged and trusted – committed to a better Canada.

As a central bank, we face a specialized and complex environment in which we manage a **range of risks** arising from external forces, as well as from our own activities. The operational and financial risks that confront us across all our activities are managed through sound internal controls. At the same time, the policy domain is highly strategic and dynamic in nature, since at the core the central bank makes decisions that anticipate the future in the context of uncertainty and, sometimes, public debate. We use judgment to weigh and manage all risks in light of their potential impacts on the Bank's credibility, reputation and capacity to achieve its long-term objectives.

Bank employees manage these various risks in accordance with their delegated authorities and within a comprehensive **system of controls and deliberation processes** designed to be commensurate with risk. We regularly monitor known risks and scan the horizon to identify emerging risks in both policy and operational areas."

2. How central banks are tackling this issue? (cont.)

IMF's RAS introductory section (abridged version)

"The promotion of the stability of the International Monetary System is the **unifying theme** that defines the scope and content of the diverse functions conferred upon the International Monetary Fund (hereafter referred to as "the Fund") by the Articles of Agreement and guides its risk acceptance and tolerance levels. The Fund recognizes that there is an element of risk in any decision or activity it undertakes and seeks to ensure that strong safeguards are in place.

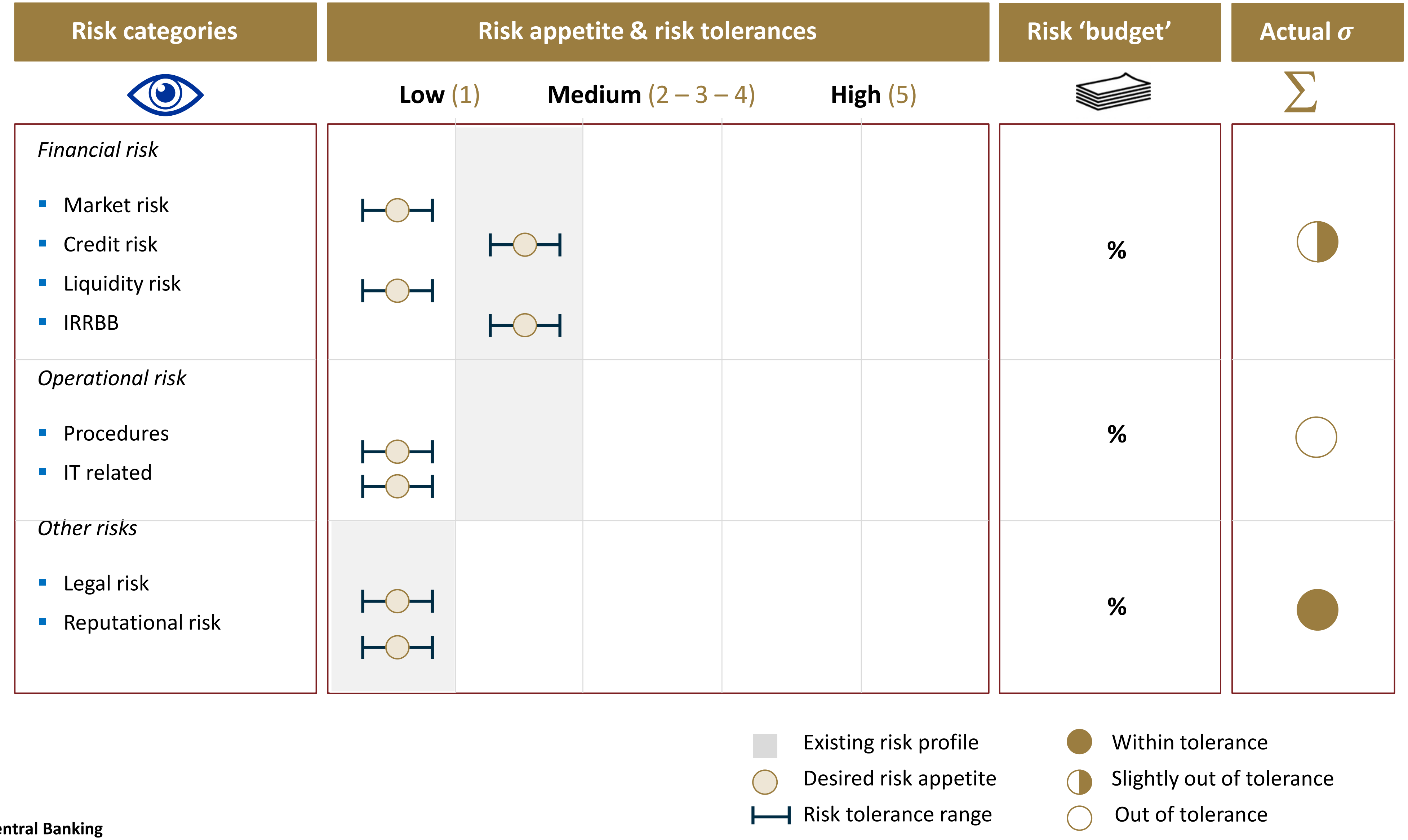
Thus, the Fund strives to operate with the least level of risk but acknowledges that, in the conduct of its core functions—surveillance, lending, and capacity development, it may need to undertake activities that require a certain degree of **risk acceptance**, given their bearing on the Fund's ability to fulfill its mandate. In particular, as the central institution for the International Monetary System, the Fund monitors and limits accepted risks in its lending activities to ensure they remain within the boundaries of its legal and policy framework. Qualification requirements, program conditionality, and other program modalities provide important safeguards. Moreover, risks are further mitigated by the general recognition of the Fund's preferred creditor status, the established remedial measures on overdue financial obligations to the Fund, and, ultimately, the Fund's precautionary balances and burden sharing mechanism.

Operationally risks are managed through **defined processes and internal controls** that emphasize the importance of integrity, maintaining high quality and diverse staff, and public accountability."

Agenda

1	Why a risk appetite framework in a central bank?
2	How central banks are tackling this issue?
3	How is that done in practice? An example
4	Key take-aways
A	Backup slides

3. How is that done in practice? An example



3. How is that done in practice? An example (cont.)

Stylised structure of Banco de Portugal's risk management governance

Three lines of defence model

Governor / Board of Directors / Audit Council/Committee

Risk Committee / Ethics Committee

1st line of defence

- Business Areas' internal controls

2nd line of defence

- Risk Management
- Compliance
- Business Continuity
- Data Protection Office

3rd line of defence

- Internal Audit

External Auditors

3. How is that done in practice? An example (cont.)

High level representation of Banco de Portugal's risk appetite framework (RAF)

Risk Appetite Statement (RAS) – internal use only

FINANCIAL RISK	STRATEGIC RISK	NON-FINANCIAL RISK
Risk Budget	Top Risks Assessment	Compliance
Benchmark	Strategic Planning	External Sources
Guidelines		Infrastructures & Continuity
		Legal
		Business Processes
		Human Resources
		Reputation & Communication
		Technology & Information

ORM

METRICS

3. How is that done in practice? An example (cont.)

Banco de Portugal RAS (extract)

“The Banco de Portugal is exposed to a **wide range of risks**, both internal and external, arising from the exercise of its functions in the national financial system and in the ESCB.

To minimise and manage the impact of these risks, the Bank has a **governance setup** with a robust internal control system allowing:

- the permanent search for mechanisms to prevent the materialisation of significant risks;
- ongoing scrutiny and assessment of the consequences of all strategic and operational decisions;
- anticipating and measuring emerging risks.

The **internal control system** ensures the independence and segregation of functions, assigning the risk management responsibility to the Departments, in their respective domain. The Risk Management Dept. is in charge of the institution’s-wide role of analysis, monitoring, advice, measurement and reporting of risks.

The risks to which the Bank is exposed fall into three main **categories**: strategic risk, financial risk and operational risk (which is subdivided into human resources, technology and information, reputation and communication, business, legal and compliance processes, infrastructure and continuity and external sources).”

3. How is that done in practice? An example (cont.)

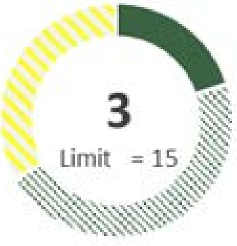
Illustration of human resource risk

Less Risk				More Risk
Risk Averse	Moderately Risk Averse	Cautious	Risk Tolerant	Risk Taking
Safety and Well-being Security Equal Employment Opportunity Employer Ethics Fraud			Training Retention Compensation Succession Planning Performance Management	Leadership Development Talent Acquisition Talent Engagement

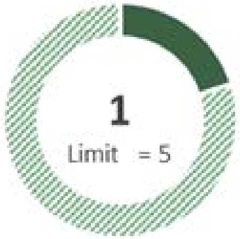
3. How is that done in practice? An example (cont.)

Two examples of KRIs

► Risk – Unwanted financial exposures stemming from limit breaches

KRI (Owner: Markets Dept.)	Computation method	Limit	Frequency
Non-compliance with the setups limits that result in unwanted financial exposures within the scope of the Bank's portfolio	# effective limit breaches that resulted in unwanted financial exposures within the scope of the Bank's own funds portfolio	< 15 / year	

► Risk – Wrong answers or not clear to *stakeholders*

KRI (Owner: Commun. Dept.)	Computation method	Limit	Frequency
Complains about provided information	# of complaints / year justified by wrong / unclear answers from the Bank, based on the records of the Bank's complaints book	< 5 / year	

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4. Key take-aways

A **significant proportion** of central banks has in place a structure of risk management governance that builds on the 'three lines of defence' model and has already setup a RAF. There is, however some **way to go** regarding its development and the definition of a RAS and the **allocation of resources** to the risk management unit / function.

An effective RAF should be **granular enough** to cover all main risks of the institution. Striking out the **right balance** between granularity and manageability is paramount in order to make the whole risk management process more agile.

A **RAF** in central banking is, first and foremost, a 'tool' to improve the risk culture and awareness of the institution. Besides, it **supports and guides** the top management in the process of decision-making and also facilitates the communication to the relevant stakeholders and the overall strategic planning process. Although a **challenging task** its setup is an **essential component** of a mature risk management function.

Thank you very much for your attention!

Backup slides

A.1 Working definitions

Concept	Definition
Risk appetite framework (RAF)	It is an institution-specific tool that works as an enabler of risk capacity, risk appetite, risk limits, and risk profile to be considered for business lines.
Risk appetite	The broad amount of risk that an organisation is a priori willing to seek in the pursuit of its strategic objectives.
Risk tolerance(s)	The boundaries of risk taking around the desired risk appetite, outside of which the organisation is not prepared to venture in the pursuit of its strategic objectives. Typically, the risk tolerances are defined at a more granular level.
Risk appetite statement (RAS)	A written articulation of the level and types of risk that the institution is willing to take/accept in the pursuit of its strategic objectives.
Risk capacity	The maximum level of risk that the institution is able to bear before reaching the constraints determined by economic and regulatory capital, available financial buffers.
Risk aversion/attitude	The preference to accept financial risks, which in combination with the risk capacity determines the risk appetite.
Risk profile	Aggregated net risk exposure (i.e. after mitigation/transfer), based on forward-looking assumptions. The desired risk profile determines the risk appetite/ acceptance.
Risk parameters	The selected indicators to 'translate' the RAS into quantitative guidelines and to link risk appetite/acceptance to business lines and specific risk categories.

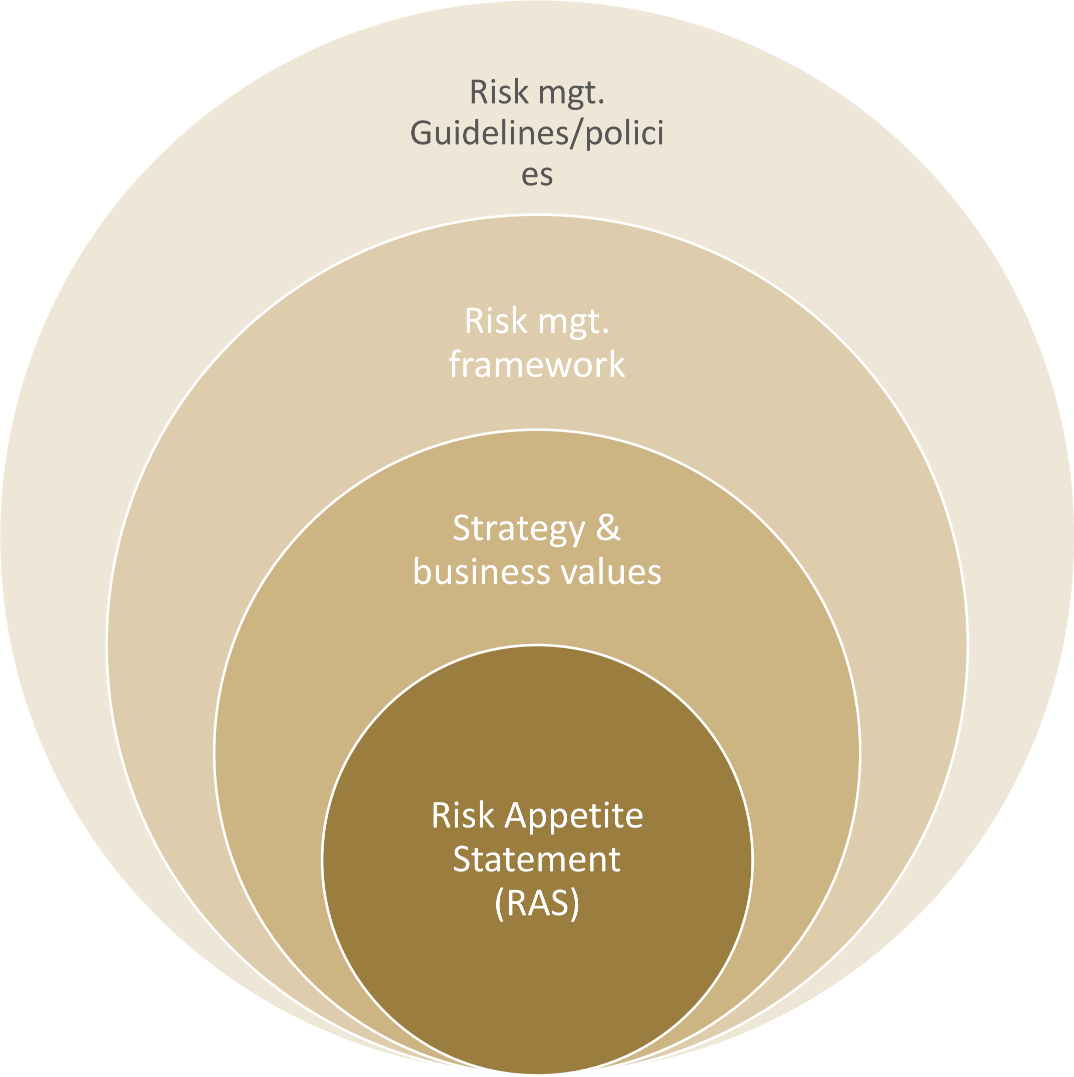
A.1 Working definitions (cont.)

Scale	Definition
Risk averse	Preference is to avoid all uncertainty (risk) around a specific process or activity.
Moderately risk averse	Preference is for business options that minimize the uncertainty around achieving objectives or around the processes that produce the value sought.
Cautious	Preference is for safe options that have a low degree of uncertainty around processes or objectives.
Risk tolerant	Preference is to consider all potential outcomes, processes, and uncertainties, and choose the one that is most likely to result in success, providing an acceptable level of reward.
Risk taking	Preference is to choose options offering potentially higher business outcomes despite significantly greater uncertainty

A.2. Key features of a risk appetite framework (RAF)

Simplified overview of a RAF architecture

Decision-making at the strategic level



A.3. Overview of RAF implementation

Full implementation…	Work in progress…
▪ 2014: Central Bank of Ireland ▪ 2015: Bank of Canada ▪ 2015: European Stability Mechanism (ESM) ▪ 2016 International Monetary Fund (IMF) ▪ 2018: Reserve Bank of Australia (update) ▪ 2018: ECB Banking Supervision (SSM)	▪ 2016: US Federal Reserve System ▪ 2016: Bangko Sentral ng Pilipinas ▪ 2018: Banco de Portugal ▪ 2018: Bank of England ▪ …

Public **Internal**

A.4. Additional benefits stemming from a RAF implementation

Pros	Cons	Additional benefits
▪ A risk appetite framework (RAF) is a key governance tool and a crucial component of a sound enterprise risk management ▪ A RAF provides a context for the implementation of risk management tools as policies, limits, measurement & reporting based of accepted metrics ▪ The set-up of a RAF will contribute to a more articulated, and consistent, financial risk management across the BAs ▪ The central bank specific mandate and the types of operations already determine the relevant risk types for the risk appetite statement (RAS)	▪ Establishing an effective RAF is a challenging but an essential component of a mature risk management ▪ Developing a RAF requires significant time and intellectual resources ▪ A RAF can encounter difficulties in terms of ‘risk attribution’ ▪ A string risk culture is a prerequisite to eventually putting in place an effective RAF ▪ A public RAS might be perceived as a constraint on the central bank policy latitude in face of unpredictable future scenarios	▪ Clarifies the conditions for risk taking, and the actions required to monitoring and control alike ▪ Shows that due consideration has been given to current and prospective risks, and that they have been integrated into the decision-making process ▪ Allow a consistent application to a more granular level, facilitating the decentralised management of risks ▪ Provides the decision-making bodies with a richer view of how risks are managed as a whole ▪ Powerful ‘tool’ to improve risk culture and awareness