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Emerging sound practices on supervisory capacity development

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Executive summary

Sound capacity development underpins an effective system of financial supervision. To fulfil their prudential mandate in terms of safeguarding the safety and soundness of financial institutions, financial sector supervisors need suitably skilled staff members to operationalise their supervisory frameworks. But these skills require continuous enhancements to cope with the rapidly evolving financial environment. As technology and sustainability issues reshape the financial sector, new supervisory skills and approaches are required. Well structured, effective and forward-looking capacity development is key to equip all levels of supervisory staff with the necessary skills so that they can continue to properly discharge their functions.

Financial authorities are making good progress in meeting international standards that call for sound institutional frameworks, including sufficiently skilled staff, but weaknesses remain. The analysis of assessments of Basel Core Principles by the International Monetary Fund (IMF) shows that many jurisdictions exhibited substantial weaknesses in their institutional framework for supervision, including staff shortages and insufficient supply of needed skills. Similarly, peer reviews conducted by the International Association of Insurance Supervisors (IAIS) found that one of the main challenges for authorities is securing the staff resources necessary for effective supervision. These weaknesses in internal supervisory capacities can jeopardise the fulfilment of mandates by financial authorities.

Challenges to capacity development are compounded not only by rapid changes in financial markets but also by the necessary regulatory/supervisory enhancements to deal with them. In this sense, the scope of supervisory mandates has expanded, and financial regulatory frameworks have evolved from compliance-based to risk-based approaches. These developments are prompting the need for new skill sets to support the exercise of sound supervisory judgment and fulfil demands from new supervisory focus areas; as well as forcing a re-examination of how capacity development activities are delivered in the light of recent trends in digital training modalities spurred by the pandemic.

This paper aims to contribute to efforts to effectively implement and enhance supervisory capacity development by taking stock of strategies and approaches in financial authorities and by identifying emerging sound practices. The findings are largely based on survey responses from 26 authorities worldwide, combined with interviews with selected respondents. The sample contains a mix of banking, insurance and integrated authorities. The paper also draws from desktop reviews of websites, annual reports and management speeches of some authorities. A few of these authorities were not survey respondents. Moreover, the experience of the Financial Stability Institute (FSI) in delivering capacity development programmes to financial sector supervisors for more than two decades also informs some of the discussion.

While traditional financial capabilities remain core to financial supervision, there has been an increase in the importance of skills related to technology and climate-related financial risks, and soft skills have also gained in importance. Survey responses show that traditional supervisory capabilities, such as finance, accounting and risk management, remain important for financial authorities. Nevertheless, skills related to the digitalisation of finance and climate-related financial risks have increased

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(and are expected to continue to increase) in importance over the years. This trend is reflected in the hiring practices of financial authorities. Authorities have also highlighted the importance of enhancing the soft skills of their staff such as communication, leadership and teamwork to facilitate the exercise of sound judgment in their supervisory work.

Financial authorities respond to these changes by putting in place sound institution-wide capacity development strategies. Based on the experiences of authorities, sound capacity development strategies should be:

- aligned with institutional mandates and regulatory/supervisory priorities;
- clear on the skills, both technical and non-technical (eg soft skills), which need to be developed by staff, including mid and senior managers;
- led by a dedicated function or ideally a dedicated unit;
- formulated in close consultation with, and with the participation of, relevant internal stakeholders including front-line supervisors and subject matter experts;
- comprehensive to include learning opportunities beyond training (ie include non-training opportunities such as secondments and internal rotations etc); and
- designed in a holistic way (ie consider the digital capabilities required of planned programmes; the organisational structure and appropriate learning culture to enable effective change; and the potential external partnerships to enrich the learning ecosystem).

Authorities find several obstacles in the effective implementation of capacity development strategies, and the key obstacle is staff members' lack of time. Staff are so heavily engaged in day-to-day supervisory work that finding time for training is difficult. Another challenge is authorities' widening mandates, which in turn lead to other challenges such as recruiting specialists and finding experts to provide the training needed to respond to these widening mandates. There are also other operational impediments including budgetary and human resource constraints, as well as procurement roadblocks.

There are certain factors that can help authorities remove these obstacles. These factors enable effective implementation of capacity development strategies and include:

- strong support from top management and making sure line managers are aligned with the strategy and allow sufficient time for training their staff;
- a well resourced capacity development function (ie appropriate expertise, budget and technological infrastructure), aided by strong governance with clear assignment of roles and responsibilities;
- efficient operational processes, for example in procuring training services from external experts and learning technologies;
- clear linkage between capacity development activities and incentive mechanisms, not only for learners but also for internal subject matter experts that serve as trainers;
- integrating learning and development approaches as part of broader institutional people strategies (eg succession planning; diversity and inclusion; and hybrid working) in a way that enhances staff engagement, satisfaction and a positive working environment;
- flexibility in terms of delivery formats for capacity development activities and the design of learning content;
- transparency about available capacity development opportunities for staff and public disclosure of key aspects of their strategies; and
- an assessment framework to measure the effectiveness of the capacity development strategy and associated specific programmes and activities.

Section 1 – Introduction

1. **Sound capacity development underpins an effective system of financial supervision.** To fulfil their prudential mandate in terms of safeguarding the safety and soundness of financial institutions, financial sector supervisors need suitably skilled staff members to operationalise their supervisory frameworks. This is recognised in the Basel Core Principles (BCP) issued by the Basel Committee on Banking Supervision (BCBS).[2] It is also recognised in the Insurance Core Principles (ICP) issued by the International Association of Insurance Supervisors (IAIS).[3] Both sets of principles highlight the importance of supervisory authorities having "adequate resources" to effectively carry out their functions. Resources include human, technological and financial resources. In terms of human resources, the BCP and ICP stress the need for authorities to regularly review the skills of their staff and their projected requirements over the short to medium term, taking into account new regulatory and industry developments. This review should lead to initiatives that would address the identified skills gaps. It is in this context that the paper explores supervisory authorities' capacity development, which is defined for the purposes of this paper as the activities by which authorities enhance the skills[4] of their staff to effectively carry out their functions.

2. **There has been a significant evolution of necessary supervisory skills over the years, which poses a challenge to capacity development in supervisory authorities.** In the past, a number of authorities carried out their supervisory tasks on a largely compliance-based approach. These authorities mostly relied on staff with backgrounds in accounting and finance. Basel II marked a broad shift in focus towards risk-based banking supervision and a greater acknowledgement of risk management practices. Similarly, the move towards risk-based solvency regimes in the insurance sector prompted greater need for specialised knowledge in areas such as risk management, statistical modelling and actuarial science, among others. The 2007–09 Great Financial Crisis (GFC) and the global regulatory reforms that followed put the spotlight not only on quantitative issues but also on culture, governance and other qualitative issues. The reforms also emphasised the need for sound supervisory judgment and effective communication of these judgments in discharging supervisory responsibilities. As such, the importance of soft skills was highlighted in addition to that of technical skills. More recently, there has been a need for different skills to deal with new issues such as fintech, cyber security and climate risk. Moreover, new expectations on supervisory authorities resulting from their expanding mandates to cover the promotion of innovation, financial inclusion, diversity and sustainability have further widened and complicated their capacity development needs.

3. **Training modalities have also evolved and the Covid-19 pandemic has accelerated the use of digital learning at financial authorities.** Traditionally, financial authorities have largely relied on in-person training to upskill their staff. This has generally been provided via classroom seminars or workshops offered in-house or by peer financial authorities, regional bodies or international organisations. Around a decade ago, technological developments facilitated the widespread use of web-based training. Since then, financial authorities have increasingly relied on this training option, mainly due to cost-effectiveness considerations. More recently, the restrictions on personal contact brought about by Covid-19 disrupted in-person training and required authorities to further increase their reliance on different forms of web-based training. In addition to asynchronous learning that can be taken independently by trainees, synchronous learning flourished during the pandemic. This has allowed trainers and trainees to interact in real time, typically through webinars or video conferences. The experience accumulated during the pandemic has made the strengths and drawbacks of digital learning evident, by comparison with in-person training. As a result, post-pandemic, it is clear that both training modalities will have a role to play in

[2] BCBS (2012).

[3] IAIS (2019a).

[4] In different contexts, capacity development documents of financial authorities may use terms like capabilities, skills and competencies interchangeably.

capacity development. The key challenge for authorities will be to identify the best way in which digital and in-person learning will coexist going forward.

4. **Assessments of the BCP and ICP standards show that supervisory authorities are finding it hard to meet the capacity development-related expectations.** Staff at the International Monetary Fund (IMF) analysed BCP assessments completed between 2012 and 2019 to identify areas in which progress has been made or where more work is needed.[5] The analysis showed that many jurisdictions exhibited substantial weaknesses in their institutional frameworks for supervision. Of the BCPs that relate to institutional framework, Core Principle 2 (on independence, accountability, resourcing and legal protection) had the greatest number of non-compliant jurisdictions. Within this Principle, "lack of resources" was identified as one of the major weaknesses, second only to "insufficient independence". Indeed, staff shortages and insufficient supply of required skills were frequently observed. Staff shortages were due to high turnover and supervisors' expanded responsibilities. Other related issues observed included inadequate staff compensation and resource planning. Meanwhile, the IAIS conducted a peer review of the mandates and supervisory powers of 72 authorities relative to the standards set out in ICPs 1 and 2.[6] The review found that the standard relating to adequacy of resources has the second lowest level of observance among the standards contained in ICP 2 (on supervisors). The main challenge for authorities is securing the staff resources required for effective supervision.

5. **This paper reviews existing practices relating to the effective implementation of capacity development approaches in financial supervisory authorities and identifies emerging sound practices.** The paper mainly relies on survey responses from 26 financial authorities as well as insights from interviews with some of them (see Annex 1 for a list of survey respondents). The sample contains a mix of banking, insurance and integrated authorities. Unless otherwise stated, any reference to authorities/financial authorities in the rest of the paper means the financial authorities that responded to the survey. The paper also draws from desktop reviews of websites, annual reports and management speeches of some authorities,[7] which include authorities that were not survey respondents. Moreover, the experience of the Financial Stability Institute (FSI) in delivering capacity development programmes to financial sector supervisors for more than two decades also informs some of the discussion. The rest of the paper is organised as follows: Section 2 explores the financial authorities' strategies and institutional arrangements for meeting their capacity development needs, as well as the evolution of priority supervisory capacities/skills over the years. Section 3 examines the authorities' specific capacity development practices. Section 4 identifies common challenges and factors contributing to successful capacity development, and Section 5 concludes.

Section 2 – Strategies and institutional arrangements for capacity development

6. **Most financial authorities rely on an institution-wide strategy to articulate their main objectives, priorities and approaches related to capacity development.** Although the specific aspects of strategies reflect the idiosyncrasies of financial authorities and terminology may vary, survey responses

5 Dordevic et al (2021).

6 IAIS (2019b).

7 Authorities covered in the desktop review are Australian Prudential Regulation Authority, Bank of England, European Central Bank, Hong Kong Monetary Authority, Financial Services Agency (Japan) and Reserve Bank of India. Additionally, publicly available information relating to Association of Supervisors of Banks of the Americas, BCBS IAIS, Bank of France's International Banking and Finance Institute and the IMF was also used.

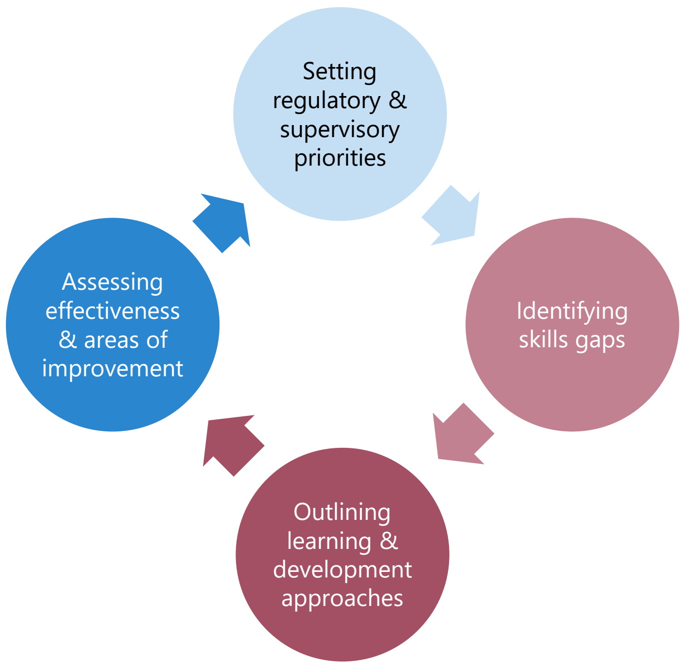
reveal the following common features in the process of defining capacity development strategies across jurisdictions (Graph 1):

- establishing key regulatory and supervisory priorities;
- identifying skills gaps to implement the key priorities;
- outlining capacity development approaches, modalities and delivery channels for upskilling staff; and
- assessing the effectiveness of the strategy and identifying areas of improvement.

This section provides a discussion on establishing priorities and identifying skills gaps. Section 3 outlines capacity development approaches, modalities and delivery channels, as well as methods to assess effectiveness.

Graph 1

Stylised capacity development cycle



Source: FSI staff analysis.

Design features of strategies

7. **Capacity development strategies are strongly connected with the mandates, visions and cultures of financial authorities.** Most financial supervisory authorities are charged with multiple mandates (eg safety and soundness, consumer protection and market integrity) and developments post-GFC have further stretched them (eg macroprudential risks, fintech development and climate-related financial risks).[8] To effectively deliver on these expanding mandates, financial authorities need to decide whether to recruit expert staff and/or upskill existing employees. This decision tends to drive their capacity development strategies. Strategies also reflect the vision of financial authorities, the way in which they

[8] See, for example, Kirakul et al (2021).

intend to deliver their mandates[9] and their organisational cultures.[10] For instance, the Australian Prudential Regulation Authority (APRA) *Corporate Plan 2021–25*[11] sets out its strategic theme of "protected today and prepared for tomorrow". This strongly relies on its people and values: "APRA has a highly skilled, committed and experienced workforce, with strong clarity of purpose and clear values that the organisation seeks to uphold at all times."

8. **Capacity development strategies are also designed to support organisational changes and supervisory approaches introduced by financial authorities.** For instance, the supervisory work of the Reserve Bank of India (RBI) is informed by the overarching vision statement of creating innovative, dynamic and skilled human resources. The RBI's capacity development strategy builds on that vision and focuses on supporting the relatively recent creation of a unified supervisory structure that brings all supervised entities under one umbrella of supervision along with improved focus on risk-based supervisory specialisation.[12] Other financial authorities' strategies are informed by the creation of specialised units dedicated to fintech, data science, cyber security or climate change, among others.

9. **Some authorities align their capacity development strategies with relevant national plans that seek to develop financial industry-wide knowledge and/or coordinate expertise across the public sector.** This is, for example, the case for the Hong Kong Monetary Authority (HKMA) and the Monetary Authority of Singapore (MAS). The HKMA has been following an industry-wide approach under its strategy "Connecting Talent to the Future".[13] Its core objective is to enhance university students' awareness of the skills and knowledge required by the banking industry. Through this scheme, HKMA is seeking to increase expertise in the industry, including increasing the scope for the HKMA to subsequently recruit seasoned industry staff. MAS follows a similar approach and also prepares a capability development plan annually as part of the Singapore government's Ministry Family Digitalisation Plan (MFDP). The MFDP sets out various MAS initiatives, including capacity development efforts, and provides updates on various metrics relating to the progress of MAS's digital transformation. The plan is submitted to a government agency which helps to coordinate resources throughout the public sector.

10. **Learning and development are increasingly part of financial authorities' broader people strategies and constitute a key aspect of their efforts to attract and retain staff.** These authorities typically offer a wide range of technical and non-technical learning and development opportunities while supporting employee well-being, career progression, succession planning, flexible working conditions, and diversity and inclusion. By following this approach, authorities expect to enhance staff engagement, satisfaction and a positive working environment. In this regard, the Bank of England (BoE) seeks to offer "great opportunities for learning and career development" as part of its employment offering that "remains a key driver for attracting and retaining a talented and diverse workforce".[14]

11. **A number of financial authorities are developing multi-year, adaptive and forward-looking capacity development strategies.** Authorities have traditionally relied on annual strategies. Such an approach allows authorities to react quickly to changing institutional priorities. However, recently, authorities seem to increasingly rely on multi-year strategies. These can facilitate over the longer term:

[9] For instance, an outcome-based approach to supervision may inform how the authorities decide their priorities, allocate their resources, and plan their supervisory cycles to make the best use of supervisory skills. Similarly, differences in supervisory focus (eg on onsite vs offsite supervision) can also influence the requirements for supervisory skills.

[10] For instance, an outward-looking organisational culture may promote periodic exchanges of talent with the industry in order to benefit from exchanges of relevant expertise.

[11] APRA (2021).

[12] Jain (2021). The RBI created a unified Department of Supervision to bring all supervised entities under one umbrella to reduce supervisory arbitrage and information asymmetries and address complexities arising from their interconnectedness.

[13] HKMA (2021).

[14] BoE (2021). Other aspects of the BoE employment offering include an inclusive and flexible working environment with strong wellbeing and family-friendly support; a commitment to fair pay; and the opportunity to do unique work for the public good.

(i) enterprise-wide planning of learning, development and allocation of responsibilities; and (ii) investment in people, infrastructure and partnerships. Most of these strategies embed elements of flexibility to allow for adaptation to changes in regulatory and supervisory priorities through capacity development plans or programmes. These articulate concrete actions or roadmaps to implement the strategies, and they typically take place over a year. Regardless of their time horizons, a significant number of respondents highlight that their strategies allow them to anticipate future capacity development needs.

12. **Some financial authorities benefit from formulating capacity development strategies in a holistic way.** These strategies aim to cover not only the approaches and modalities used to address skills gaps but also seek to find coherence with the people strategies of the institutions. They also seek to develop appropriate learning cultures, organisational structures and technological infrastructures needed to achieve the overall capacity development objectives. Examples of the type of information commonly included in financial authorities' strategies are the type and extent of skills gaps that will be addressed or prioritised; the mix of foundational level learning content for all staff versus specialised training for specific groups of employees (ie intermediate and advanced training); learning and development expectations of staff; learning curricula or paths for foundational and specialised training; learning methodologies and solutions that will be used; and the use of internal trainers and external learning partners.

13. **An increasing number of financial authorities are making their capacity development strategies fully accessible to their staff and publicly disclosing various aspects of them.** Although strategies normally take the form of internal documents, our analysis finds an increasing number of authorities disclosing key aspects of the performance of their capacity development strategies – including key achievements – within the organisation and publicly disclosing various aspects of it. The latter are generally presented as part of their annual reports, website documents or are included in speeches of top management.

Supervisory skill needs

14. **Institutional regulatory and supervisory priorities provide the basis for identifying skills needs**. Increasingly these priorities are being made public as part of annual reports or management speeches. There are different approaches for identifying regulatory and supervisory priorities. For instance, the ECB's Single Supervisory Mechanism (SSM) follows a mapping approach by linking each identified financial sector vulnerability to specific supervisory priorities through a risk identification and priority setting process, to come up with its banking supervision work programme.[15] The outcome of this exercise plays a key role in the development of the SSM's capacity development strategy.

15. **Financial authorities adopt various approaches to identify the skills needed to meet their institutional priorities and in-person feedback seems to be particularly helpful.** The approaches used by authorities include conducting interviews or holding meetings with different stakeholders across the organisation (eg line managers, front-line supervisors and internal trainers); receiving feedback through surveys; obtaining input through cross-departmental committees; and/or relying on informal channels of communication with the above-mentioned stakeholders. Our discussions with financial authorities suggest that in-person feedback seems to be one of the most effective ways to assess professional competencies across the organisation and identify skills gaps to meet institutional priorities.

16. **Traditional financial capabilities remain core competencies for financial authorities.** A key message from the survey responses is that traditional competencies continue to be critical in providing a strong foundation for financial sector supervision (Graph 2, left-hand panel). In this regard, respondents place risk management and finance expertise at the top of those traditional competencies. Economics and

[15] ECB (2022).

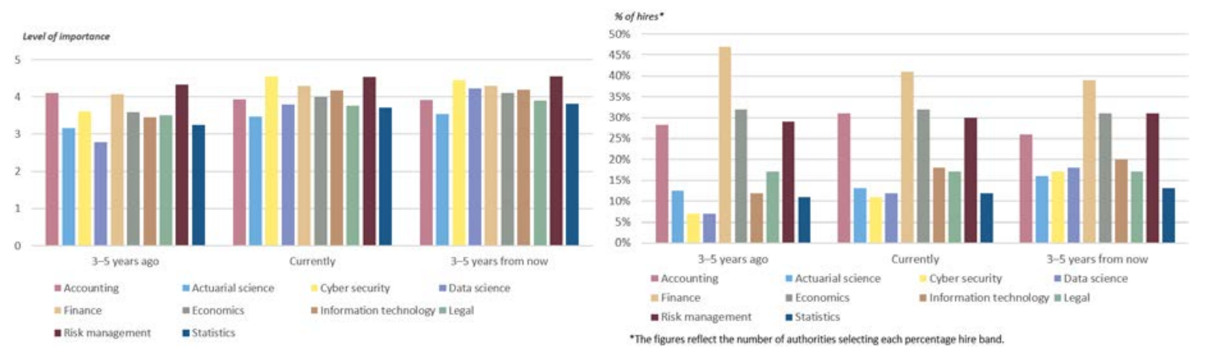
accounting backgrounds follow. The list of top traditional competencies also includes expertise in law, statistics and actuarial science.

17. **However, skill needs related to the digitalisation of finance and climate-related financial risks have gradually increased.** Survey respondents indicate that cyber security is the skill most needed in their organisations. Data science expertise – particularly in machine learning and artificial intelligence – has experienced the highest growth in importance and constitutes, alongside information technology, a highly needed supervisory skill. For instance, the Japanese Financial Services Agency (JFSA) plans to increase the number and types of training offerings on data science.[16] When asked what other capacities or skills they deem important, many survey respondents mentioned supervisory expertise on climate-related financial risks and sustainability more broadly. Some authorities report investing resources in enhancing their governance, culture and consumer protection skills.

18. **The importance of traditional financial capabilities and technology-related skills are reflected in the hiring trends at financial authorities.** New hires continue to predominantly have a finance, economics, accounting or risk management background (Graph 2, right-hand panel). However, survey responses suggest a slight decline in hiring professionals with finance and accounting expertise. This tendency does not necessarily reflect a reduction in the importance of these professions at financial authorities, but rather hiring trade-offs connected with the need to recruit an increasing number of professionals with digital financial expertise. This particularly includes those with cyber security, data science or information technology backgrounds.

Supervisory skills and hiring practices Graph 2

Importance of supervisory skills | Hiring practices



Source: FSI survey of financial supervisory authorities.

19. **Besides technical capabilities, a number of financial authorities attach substantive importance to enhancing the soft skills of their staff.** These generally include developing or improving leadership capabilities, broad analytical perspectives, communication effectiveness and critical thinking, as well as team management skills. For these authorities, soft skills are important because they enable effective implementation of a risk-based supervisory approach, enhance the judgment of staff in their day-to-day supervision, and contribute to effective dialogue and better understanding of the issues faced by supervised institutions. This may help to alleviate the regulatory burdens which they face.[17]

16 JFSA (2021).

17 For instance, the JFSA's strategy explicitly focuses on the objective of reducing the regulatory burden by placing more emphasis on the dialogue that takes place during onsite inspections and the information obtained through its new remote monitoring framework using technologies to oversee financial institutions (JFSA (2021, p 31)).

Governance arrangements

20. **Capacity development strategies tend to be formulated following a combination of top-down and bottom-up approaches and are approved at the highest level in the organisation.** Strategies formulated under a top-down approach place greater emphasis on the view of senior management and/or the unit responsible for capacity development. These strategies also attach greater importance to the assessment of available infrastructure and resources for capacity development. They also tend to focus on closing skills gaps over the medium- to long-term. Bottom-up strategies are largely based on staff input and tend to prioritise short- to medium-term skills needs. These approaches aim to generate staff ownership in the formulation of strategies and active engagement in their implementation. Our analysis shows that the formulation of capacity development strategies has both top-down and bottom-up elements and they are generally approved (or endorsed) by the highest body or top officials of an organisation. These senior officials typically communicate to staff their support for the capacity development strategy.

21. **Capacity development strategies receive strong support from senior and mid-level management**. Survey responses across jurisdictions show that the tone from the top is critical to the implementation of effective strategies. Most authorities indicate that their senior management form part of the decision-making process behind their strategies. In the case of the Financial Superintendency of Colombia (SFC), the governance structure for training programmes is led by the Human Resources (HR) Committee, with the Financial Superintendent, the top official in the organisation, serving as its chair. The Committee also includes the Deputy Superintendents of functional units. A key success factor across financial authorities seems to be mid-level management support for learning and development by staff. The Bangko Sentral ng Pilipinas (BSP) consistently monitors the compliance of staff participation in training sessions and line managers are required to provide staff with sufficient time to undertake training.

22. **Most financial authorities have a dedicated capacity development function, usually within the HR department, and in some cases undertaken by dedicated bodies outside HR.** Authorities generally rely on a dedicated function with necessary staffing, budgetary and technological resources to coordinate the formulation of their strategies and oversee their implementation throughout the organisation. The strategy assigns clear roles and responsibilities to this function including monitoring progress, seeking/providing feedback, assessing effectiveness and reporting to relevant stakeholders. The delivery of these activities is generally underpinned by a training management or capacity development system that has ongoing technological support for its operation. Among surveyed authorities, this function lies mostly within the domain of HR and operates as a single point of capacity development contact for the whole organisation. However, our study also finds that some authorities rely on training academies/institutes or corporate universities to exercise this function. The Bank of Italy (BdI), for example, is undergoing a transformation towards a Corporate Academy responsible for articulating and implementing training paths according to professional profiles, which will then culminate in certification of competencies.

23. **However, a growing number of financial authorities are setting up specialised functions to oversee and/or coordinate the implementation of the strategy in front-line units.** These special functions are generally integrated with supervisory or technical units and act as a liaison between these units and the institution-wide capacity development function. As a result of the front-line expertise of staff contributing to these special functions, authorities adopting this arrangement report benefits in terms of the implementation of their capacity development strategies. These benefits are connected with the identification of training needs and the quality of learning materials. For instance, APRA has a Professional Development team within the People and Culture unit that oversees general learning and development across the organisation. It has also established a Supervisory Training Academy to develop, deliver and oversee the training curriculum on prudential supervision . APRA believes that this targeted approach is better suited to dealing with rising complexities in the areas of supervision. Similarly, RBI has created the College of Supervisors (CoS) to improve the supervisory function through better

capacity-building and skilling of supervisors by conducting extensive training programmes in different areas.

24. **Regardless of the chosen governance arrangement, close coordination between staff responsible for capacity development, subject matter experts and front-line supervisors is crucial for the effective implementation of strategies.** Survey responses and discussions with financial authorities indicate that the implementation of their strategies benefit from close interaction between the unit(s) responsible for capacity development and talent or human capital management, as well as experts from technical units and front-line functions. This interaction takes a variety of forms. For example, the JFSA experience of using committee structures to establish training syllabuses for courses on new topics has been positive. These committees consist of directors of the HR unit and relevant experts from different departments. Through ongoing collaboration between the SSM training team and internal subject matter experts, the SSM has created a digitalisation learning path for its staff and is expanding several learning and development initiatives in the field of climate and environmental risks.

Section 3 – Capacity development practices

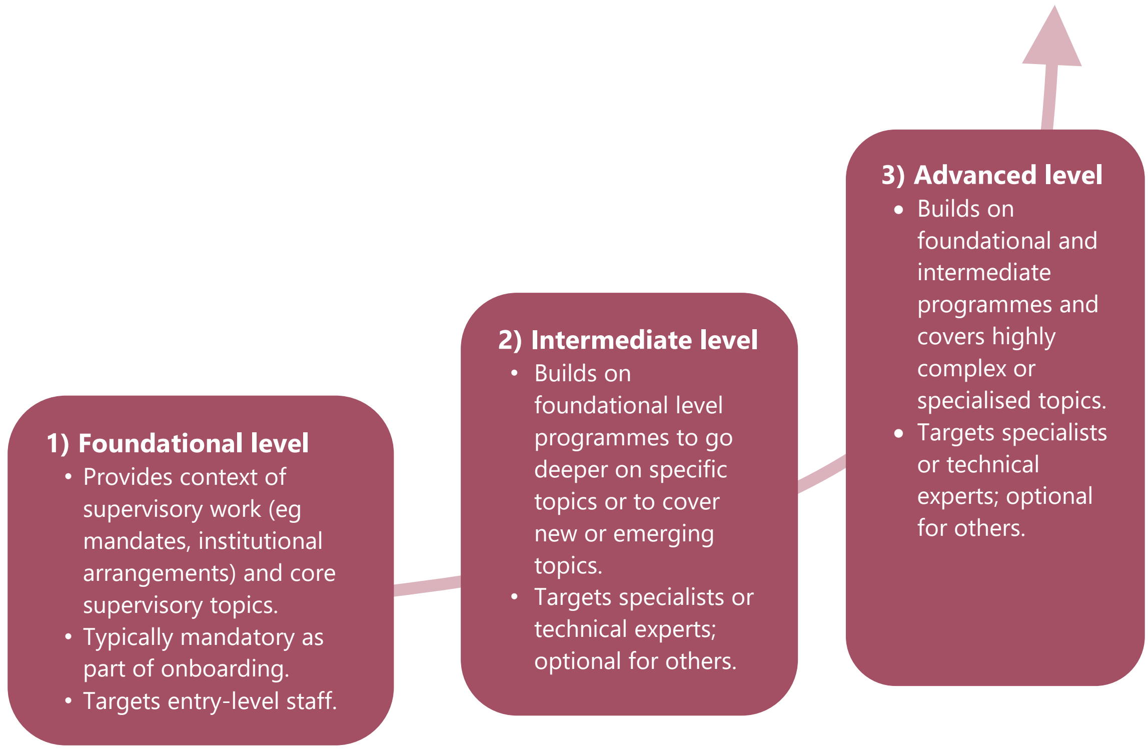
Levels of skills

25. **In general, financial authorities adopt a building block approach to capacity development that differentiates between foundational, intermediate and advanced levels of expected staff skills.** The building block approach can be helpful in providing a learning compass or guide to staff members to navigate through myriads of capacity development offerings. Foundational programmes typically cover baseline skills that are expected of all supervisory staff. Intermediate and advanced levels, on the other hand, are skills required for more specialist or expert roles. Graph 3 illustrates a possible supervisory training curve, covering technical topics that a financial sector supervisor might go through starting as a newcomer, gaining more in-depth supervisory skills over time until he/she specialises in a particular field. In parallel to such formal training paths, the supervisor would also learn on the job as not all skills and knowledge required to undertake effective supervision can be delivered through formal training.

26. **A clear and well structured curriculum is an essential element of a sound capacity development framework for financial sector supervisors.** This is particularly the case when it provides a roadmap or guide for staff at all levels of seniority and with a variety of responsibilities, so that staff can undertake training that best matches their professional development needs. There is no globally accepted curriculum on financial sector supervision. Nevertheless, capacity development providers may have some useful pointers on how to establish such a curriculum based on their experience. For example, online courses offered by the FSI and its partners such as the IMF, the IAIS and the Network for Greening the Financial System (NGFS) typically start by covering the relevant international standards relating to a particular topic. This is because international standards such as the BCPs or the ICPs are the benchmarks for effective supervisory frameworks. As there are usually several ways to implement those principles, the FSI courses showcase jurisdictional implementation approaches.[18] See Annex 2 for a discussion on issues related to designing a curriculum for financial sector supervisors.

[18] Another example at the international level is the Experts Training Strategy of the International Association of Deposit Insurers. The strategy involves a training programme consisting of workshops aimed at staff with different levels of experience with the Core Principles for Effective Deposit Insurance Systems. The objective is to develop a roster of Core Principles experts from IADI member staff who are capable of evaluating member self-assessments of compliance with the Principles.

A supervisory training curve Graph 3

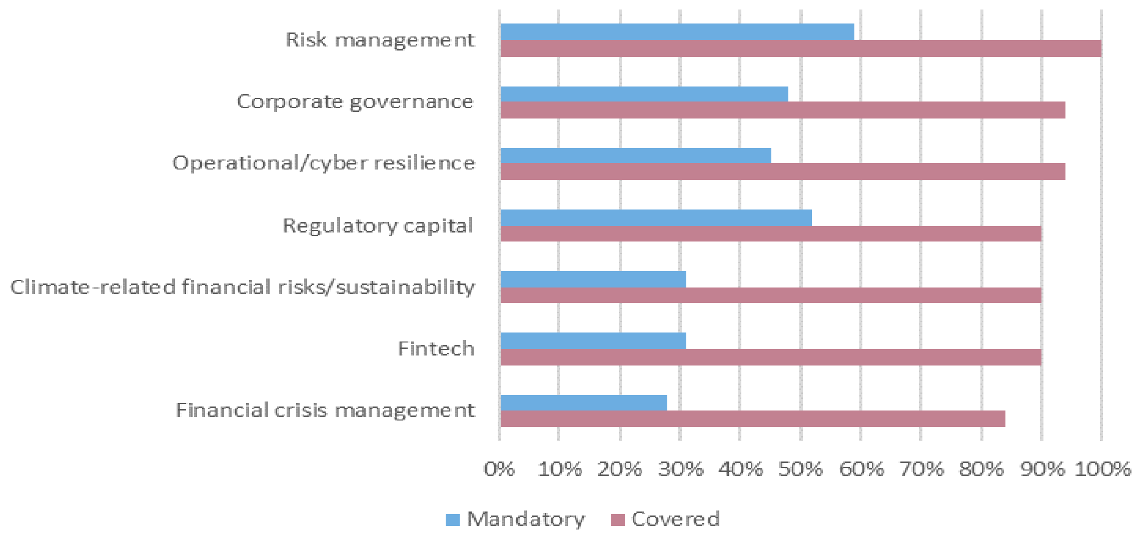


Source: FSI staff analysis.

27. **Foundational programmes targeting entry-level staff usually start by providing a contextual overview of the regulatory and supervisory ecosystem and core supervisory topics.** Entry-level staff can be either fresh graduates with no working experience or experienced professionals without prior supervisory experience or specific expertise for a particular role. As core supervisory skills are not typically covered in university studies or in private sector training sessions, entry-level staff members need to be trained on these unique supervisory topics. As such, foundational programmes are typically mandatory. For example, APRA identifies mandatory courses as those relating to its unique supervisory approach, how its staff members work and its role in the regulatory ecosystem. Discussions with authorities indicate that, more specifically, the topics covered in foundational programmes include the mandates of an authority as well as the underpinning legislation and institutional arrangements. This includes relationships with other domestic authorities. Core supervisory topics that are usually covered include corporate governance, risk management, regulatory capital and the risk-based supervisory framework or methodology specific to the jurisdiction. In Singapore, recent graduates joining the MAS must undergo a training programme that provides them with an overview of all MAS functions. Participants in this programme learn how different functions support the MAS's objectives in pursuing financial stability and financial development, as well as how different risks relate to financial stability and financial sector development. Our study found that successful participants in such foundational programmes typically obtain an internal certification, which could serve as a form of recognition and provide motivation for staff to continue pursuing their professional development. One particular benefit of these foundational training programmes is that they help to break down silos by building relationships between participants in a given cohort – this will be of benefit to participants in their work in any function or unit within the authority.

28. **Some specialised technical topics are mandatory in capacity development programmes, reflecting unique supervisory mandates.** Such topics include anti-money laundering and countering the financing of terrorism (AML/CFT), market conduct or Islamic finance. Graph 4 illustrates additional topics covered in the existing training programmes of authorities, and whether these are mandatory.

Coverage of and mandatory topics in training programmes Graph 4



Source: FSI survey of financial supervisory authorities.

29. **Some authorities consider a basic understanding of fintech or climate risks to be essential to core supervisory work.** Accordingly, they include these topics as part of mandatory and/or fundamental programmes. In many authorities, however, these topics, as well as specialist topics – such as financial crisis management – which are relatively new and rapidly evolving, are typically not made mandatory in capacity development programmes. Our study found that the non-mandatory approach reflects limited demand or training needs on such topics, the demand for which is confined to a small group of supervisory staff.

30. **Capacity development on fintech and climate change requires a unique approach.** These topics are different from traditional regulatory or supervisory topics as they are rapidly evolving without concrete global standards on which to base regulatory and supervisory approaches. For fintech, the scope of capacity development is wide and constantly changing. For climate change, the challenge is the difficulty in delivering meaningful capacity development given the early stage of development of prudential tools to deal with the risks. Nevertheless, capacity development in relation to both topics share some common elements in terms of covering prudential and financial stability risks that can arise. They also share a common delivery challenge in terms of requiring flexibility to continuously adjust any training approach to include the latest developments in each area. Annex 3 describes possible capacity development approaches in the area of fintech and climate risks.

31. **Intermediate and advanced capacity development programmes typically delve deeper into specific technical or emerging topics.** Intermediate programmes targeting specialist staff members can examine topics covered in the foundational programmes in more depth, for those who require such skills to fulfil their specialist roles. Intermediate programmes can also cover new or emerging topics (eg fintech and climate risk). Advanced levels would cover highly complex or specialised topics, mainly catering to the developmental needs of specialist staff members. Intermediate and advanced programmes may be voluntary for non-specialist staff, depending on their interests and personal development objectives.

Discussions with authorities indicate that their senior management expect staff to continue to enhance their knowledge and skillsets over time. In certain authorities, specialised learning tracks on intermediate or advanced topics are established to provide guidance to interested staff to go through the content in a structured manner.

32. **Capacity development programmes on financial regulation or supervision cannot exist in a vacuum – they go hand in hand with broader human development and soft skills.** An essential element of an effective supervisory capacity development programme is for staff to have "enabling" skills such as professionalism, integrity and teamwork that are typically offered as soft skills training. As the nature of supervisory work relies on exercising sound judgment to a great extent, it is particularly important to cultivate these skills to support the effective discharge of supervisory functions. Some authorities make capacity development on certain core soft skills mandatory if they are crucial for the effective discharge of supervisory responsibilities. Such soft skills include digital literacy, interview and communication skills. As core supervisory skills continue to evolve, shaped by industry developments and technological advancements, supervisory authorities will adjust their capacity development programmes in terms of the topics that are considered crucial and therefore mandatory.

33. **While most of the focus of capacity development programmes is on technical staff, there is a clear need to devote sufficient attention to mid and senior managers as well.** Recognising the importance of high-quality management skills in maximising staff performance, the JFSA provides continuous management training to its executive officials.[19] In general, capacity development can be viewed as a (working) lifelong journey. Beyond management or leadership topics, authorities indicate that senior managers require capacity support in understanding "macro" or cross-cutting issues such as the impact of macroeconomic developments on the financial sector, and cross-jurisdictional regulatory and supervisory approaches on specific issues. Certain authorities, including the SSM, expose their senior management to technology-related and climate-related topics given the importance of having a basic understanding of these complex topics in order to be able to conduct informed policy discussions. The MAS "tests" new capacity development programmes (for example Python programming and robotic process automation) with its senior management, by way of highlighting the key content and learning points, before rolling out the training to all staff. Several authorities partner with globally renowned academic institutions to offer executive programmes to their senior managers.

Delivery modalities

Format

34. **Online training has become a core tool in supervisory capacity development following its wide adoption during the Covid-19 pandemic.** Within online training delivery, some authorities place more emphasis on synchronous training than asynchronous materials, perhaps to benefit from live interactions with subject matter experts. Nevertheless, discussions with authorities indicate that asynchronous training remains a suitable tool, especially for busy staff as they can learn at their own pace, thus addressing one of the key challenges faced by many authorities in terms of the lack of time which staff have available. Certain authorities find it difficult to expect staff members to be available whenever synchronous training events (be it in-person or online) are offered. APRA, for example, has developed a "capacity development guide" that provides a directory of on-demand training offerings mapped against required skills. This delivery mechanism is part of a broader suite of learning offerings APRA has in place to build capacity and provide learning opportunities whenever staff members need them. The JFSA takes a similar approach, relying on internally developed pre-recorded lectures for training on foundational topics. That said, online training is not exempt from challenges. For instance, the SFC noted that online

[19] JFSA (2021).

training may suffer from constant work-related disruptions or "Zoom fatigue" that may adversely impact learning outcomes.

35. **Foundational online training is increasingly being delivered using both synchronous and asynchronous materials over several weeks.** In some cases, FSI Connect (asynchronous) tutorials are included in the syllabuses of foundational level training to explain core international standards underpinning financial sector regulation, and sound supervisory practices. Some authorities expect their future online capacity development strategies to partly depend on technological developments in the e-learning industry, for example in terms of the offerings available on learning management systems. In relation to this, in 2021 the FSI embarked on a transformation project to modernise its e-learning tool, FSI Connect, to achieve the following objectives:

- to support the FSI's expanded online course offering as part of Innovation BIS 2025, the BIS's medium-term strategy to leverage technology to serve its key stakeholders;
- to take advantage of the latest e-learning technologies to ensure the platform is flexible enough to meet current and future business requirements; and
- to improve the user experience and administrative functionalities.

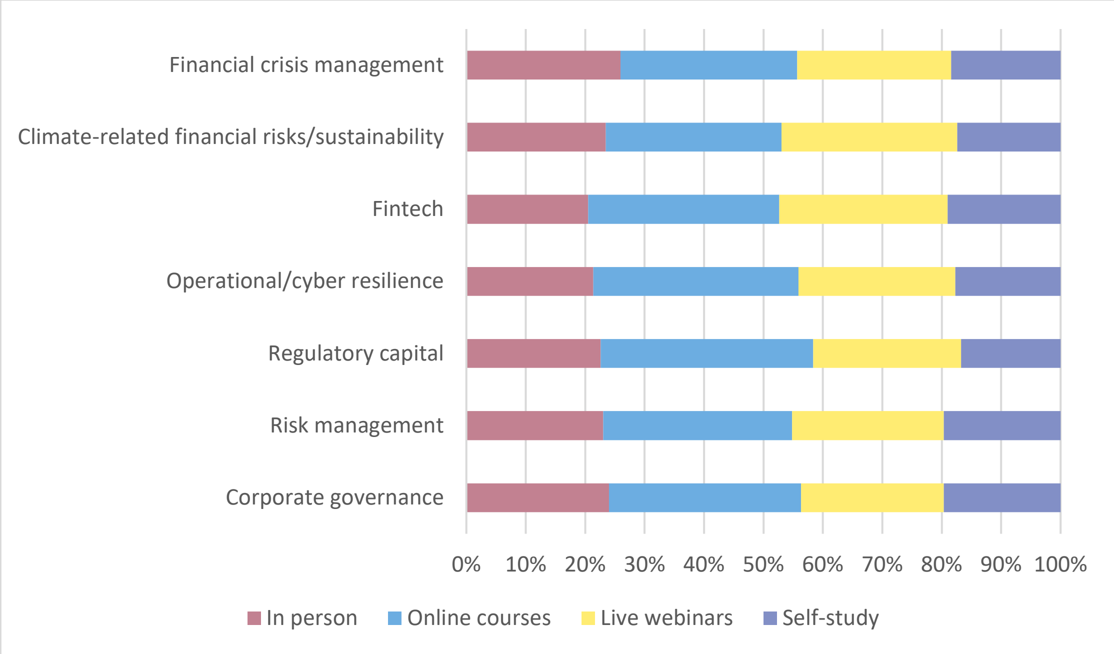
The project culminated in procuring a new learning management system to host FSI Connect self-study tutorials as well as the FSI's offering of online courses. See Annex 4 on the FSI's role in supporting the BIS Innovation 2025 strategy in relation to capacity development activities.

36. **Some authorities plan to resume in-person training on advanced topics or topics that benefit from in-person learning activities.** Our study found that topics such as corporate governance, risk management, risk-based supervision and financial crisis management might benefit from group learning activities, for example case study discussions on early supervisory interventions or conducting stress testing simulations. In addition, in-person training seems to be especially helpful when covering topics in which soft skills are key such as professionalism, integrity and leadership. Moreover, an important by-product of in-person training participation is the opportunity to get to know colleagues or enhance existing relationships throughout the organisation. Post-Covid there seems to be greater demand for live interactions, particularly in person.

37. **Authorities expect blended learning to become a preferred training approach.** By combining in-person and online training deliveries, blended learning provides the convenience and flexibility from online deliveries with face-to-face interactions. APRA and the SSM, for example, anticipate offering such blended learning opportunities in the "new normal", with APRA citing geographically dispersed staff locations as a reason, amongst other drivers. MAS expects to be able to train its employees wherever they are, be it virtually or in person in the office, reflecting the move towards hybrid working arrangements. A challenge with these hybrid learning activities is keeping virtual participants as fully engaged as the in-person participants. See Graph 5 for the composition of delivery channels[20] of training programmes that the authorities expect to offer under the "new normal".

[20] Self-study materials can be online or offline (eg printed materials).

Delivery channels under the "new normal" Graph 5



Source: FSI survey of financial supervisory authorities.

38. **Innovative content delivery approaches are used to improve knowledge retention and facilitate application in the day-to-day work of financial sector supervisors.** Our study found that one of the most common asynchronous delivery formats is making recordings of presentations available. Such recordings may be supplemented by synchronous sessions to allow staff members to pose questions and interact with subject matter experts. The BSP uses a hypothetical bank throughout its foundational banking supervision programme to bring out issues from various angles. The Central Bank of Brazil uses an inverted or flipped classroom approach whereby course participants are provided with background materials in advance for discussion at the synchronous sessions. Podcasts and short videos are increasingly popular, for example within APRA, as they can be consumed when needed and revisited as staff members require.

39. **Before introducing new capacity development programmes, some authorities roll out a pilot version with a small group of participants to iron out the modalities.** This approach, adopted by the Central Bank of Brazil, allows the unit or person(s) responsible to fine tune aspects such as the content covered, length of the programme, study intensity and delivery format based on feedback from the anticipated target audience. The FSI takes the same approach when introducing new online courses by launching pilot versions of the courses with a limited number of participants and institutions. In 2022, the FSI launched three pilot online courses on bank resolution (in collaboration with the IMF), on finance, innovation and technology (with other BIS units), as well as on climate-related and environmental risks (with the NGFS).

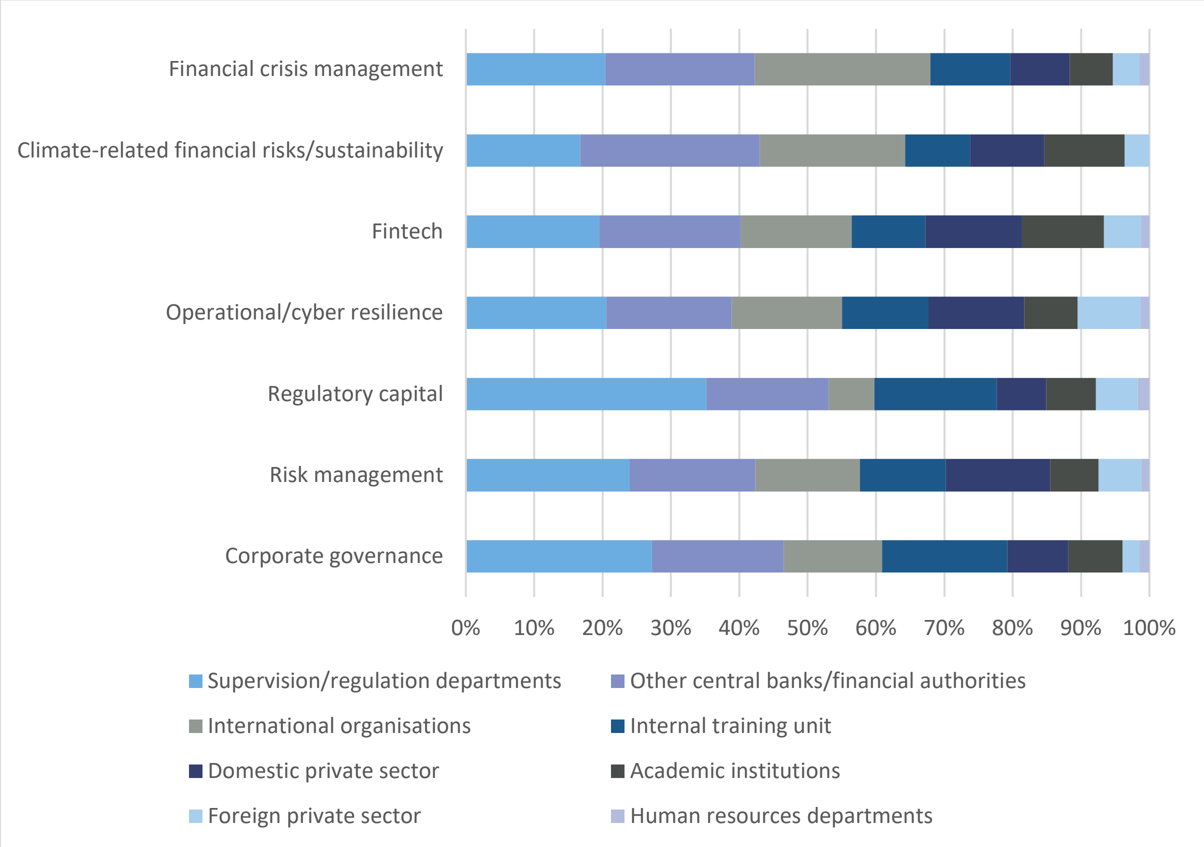
Trainers

40. **Most authorities rely on internal subject matter experts from their regulation and supervision departments to deliver capacity development programmes.** This approach is most common in delivering core and fundamental supervisory topics such as regulatory capital, corporate governance and risk management as well as topics that are bespoke to financial sector regulators such as supervisory review processes or methodologies. At APRA, its Supervision Training Academy provides training on its supervisory approach as part of its newcomers onboarding programme, while various

internal risk specialists deliver more technical training on areas such as risk culture, remuneration and accountability, amongst other targeted risk areas. The JFSA designates specific staff members to develop training programmes for identified skills.

41. **For new and emerging topics such as fintech, crypto assets, data science or climate risks, authorities typically rely on external providers due to a lack of internal expertise.** Such external subject matter experts or trainers can come from the private sector, academia or international organisations. Graph 6 shows the composition of training providers for selected topics sourced by the authorities.

Composition of training providers by topic Graph 6



Source: FSI survey of financial supervisory authorities.

42. **Learning and development or training units may provide didactic and pedagogical support to internal subject matter experts.** This is the setup in APRA. Such support may help improve the effectiveness of capacity development programmes for example, making the sessions more engaging, providing advice on appropriate visuals to augment delivery of key messages and matching the content delivery with the stated learning objectives, a concept known as "constructive alignment".[21] In many authorities, trainers receive feedback from course participants in order to help them improve content and delivery approaches. Moreover, there are authorities that have in place formal "train the trainer" programmes to train internal subject matter experts on how to be effective trainers.

[21] Biggs (2003) describes "constructive alignment" as a teaching system comprising the curriculum, its intended outcomes (what students should know or be able to do after the training), the teaching methods (how students will learn) and assessment tasks (how learning will be measured) all being aligned.

43. **Financial authorities also provide capacity development support for their peers.** For example, in the United States, the Board of Governors of the Federal Reserve System and the Federal Reserve Banks offer training and assistance for supervisors and staff of other central banks as well as bank supervisory authorities. Their International Training and Assistance programmes are aimed at promoting sound supervisory practices and fostering strong bilateral and multilateral relationships with central banks and bank supervisory authorities from other jurisdictions. The Bank of England Centre for Central Banking Studies offers capacity development programmes to equip central bankers and financial regulators in the United Kingdom and globally with skills and expert knowledge to tackle the challenges they face. The Bank of France's International Banking and Finance Institute (IBFI/BdF) similarly offers training programmes for other central banks and supervisory bodies.

Length of programmes

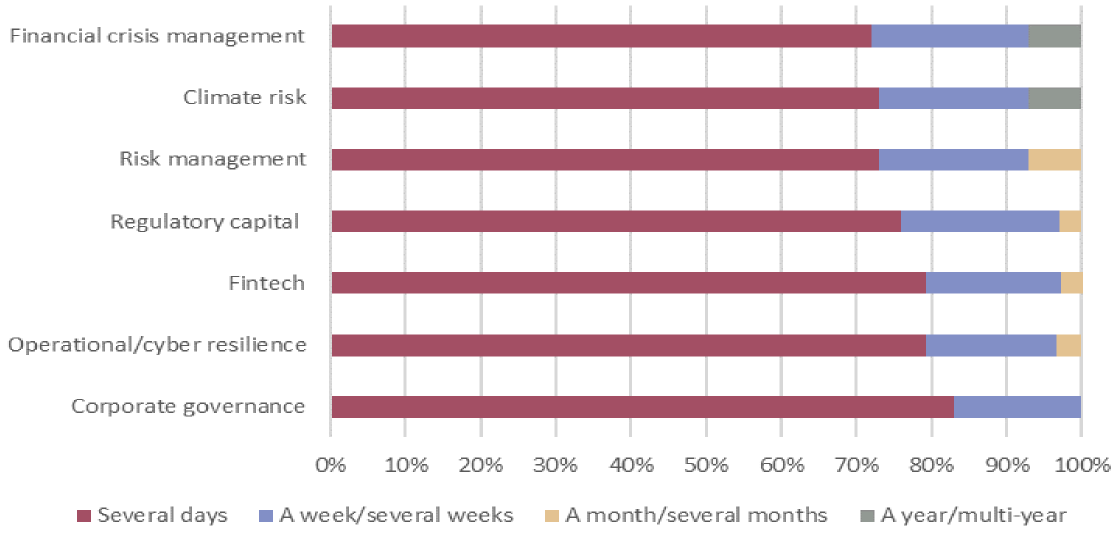
44. **There is a clear preference for shorter programmes.** The length of capacity development programmes ranges from several days to several weeks, depending on their objectives, topics covered and delivery strategy. The trend towards shorter programmes reflects the key challenge faced in many authorities in terms of the lack of staff time for training. A 2020 IBFI/BdF survey found that an overwhelming majority of respondents prefer short webinars of no longer than one and a half hours.[22] Our study found that some training programmes are spaced out over time by offering hour-long sessions on a weekly or biweekly basis to cater for time-pressed staff. Such short sessions are used to cover one specific aspect of a broader topic covered within the programme. Typically though, most programmes are offered over several days on core supervisory topics such as supervisory processes and techniques. Programmes on complex topics such as data science may span several weeks or months.

45. **Mandatory foundational programmes are typically offered over longer durations, spanning several weeks.** For example, the Central Bank of Brazil's foundational training on banking supervision lasts for eight weeks and is delivered by internal trainers in a series of in-person and virtual formats. Such longer programmes offered by authorities that span several weeks typically take a blended learning approach, combining in-person sessions with online asynchronous training materials covering a structured learning curriculum. Discussions with authorities highlighted that some staff prefer the flexibility to study the asynchronous materials at their convenience.

46. **While there is a tendency to favour shorter courses over longer ones, both options have their merits.** Most virtual courses offered by APRA to its supervisory staff last for two to three hours, whereas the SSM training programmes feature both short workshop-like courses (one to two hours) and month-long courses. The longer courses are delivered over multiple sessions, following a blended learning approach. Our study found that some authorities offer multi-year programmes on topics such as climate risk or financial crisis management, potentially as part of a structured building block programme that takes a staff member from the foundational to the advanced level. Graph 7 shows the duration of programmes by topics offered by the authorities.

[22] IBFI/BdF (2021).

Duration of programmes Graph 7



Source: FSI survey of financial supervisory authorities.

Incentives

47. **Putting in place incentives to prompt staff to complete capacity development programmes is a key issue that confronts all authorities.** There are "carrot and stick" approaches that can be considered, for example:

- providing monetary incentives;
- offering job progression (dis)incentives;
- offering external domestic or international secondment opportunities;
- sending staff to participate in international courses;
- establishing internal certification or award programmes to acknowledge attainment of certain skills; and
- supporting academic qualifications (for example diplomas, degrees, post-graduate degrees) and/or professional qualifications (for example Certified Public Accountant).

Some authorities, for example the MAS, offer a monetary sum up to a cap that is renewed every five years that staff members can use to fund external training or certification programmes even if such programmes may not be directly relevant to their current job function, provided the qualification can benefit the organisation more broadly.

48. **As many authorities rely on internal subject matter experts to deliver capacity development programmes, one major consideration relates to providing incentives for these experts to do so.** Authorities have a range of practices in terms of the level of formality of their approach, from a purely voluntary basis to formal performance-related frameworks. Both the BdI and the BSP provide trainers with sufficient time as part of their day-to-day responsibilities to prepare and deliver the programmes. The latter also recognises trainers' efforts in formal performance appraisal processes. Most authorities, however, follow a "softer" approach to recognition by providing opportunities for internal trainers to engage with senior management or acknowledging their contributions openly amongst all staff.

Authorities that rely on a "softer" approach look to subject matter experts to have a sense of duty to support their other colleagues and to be self-motivated to contribute to such efforts.

Learning cultures

49. **There is a range of training cultures in financial authorities – some preferring a push-based approach, while others relying more on a demand-based approach, or a mix of the two.** In general, foundational and intermediate topics are typically push-based while more advanced topics are more demand-driven. A push-based approach typically involves pushing or prescribing courses to specific groups of staff members. On the other hand, a demand-based approach involves staff members themselves voluntarily and proactively identifying and requesting training based on their own developmental needs. Some of the authorities highlighted that it may be difficult to put in place appropriate incentive structures for push-based training courses as the target audience may complete the courses superficially, just to "tick the box". While a demand-based approach can address the issue of staff time scarcity, it requires a proactive and mature organisational learning culture to work. A mature learning culture would see even experienced staff undergoing refresher programmes on fundamental core supervisory topics on a regular basis while continuously expanding their knowledge and skills on emerging topics.

50. **As the skills that supervisory or regulatory staff require will evolve over time, authorities are putting in place processes to support such dynamic needs.** Most authorities deem the identification of required skills as a process through which the evolving capacity development needs of staff can be identified and addressed. A few authorities take a more stringent approach to ascertain that their staff are up to date on new topics or skills by imposing minimum training hours per year as part of the performance appraisal objectives. Another authority makes an identified list of FSI Connect self-study tutorials mandatory learning. While there is merit to such an approach, care should be taken to avoid the process becoming a box-ticking exercise. The MAS does not set minimum training hours for its staff to avoid the impression that training is the only source of learning. A differentiation is made between training and learning, with learning taking place mostly on the job.

Evaluation of capacity development programmes

51. **Assessing the effectiveness of capacity development programmes is considered critical in order to identify the cost effectiveness of such programmes.** This is especially important given scarce resources, both from the perspectives of programme recipients (in terms of lack of time) as well as programme providers (in terms of training and resource availabilities). There are usually "one or two chances" to deliver a successful programme, or otherwise face negative consequences in terms of low engagement or participation in future offerings or even budget or resource cuts. A starting point in establishing an evaluation framework is to clearly identify the intended outcomes of a capacity development programme, which may be to:

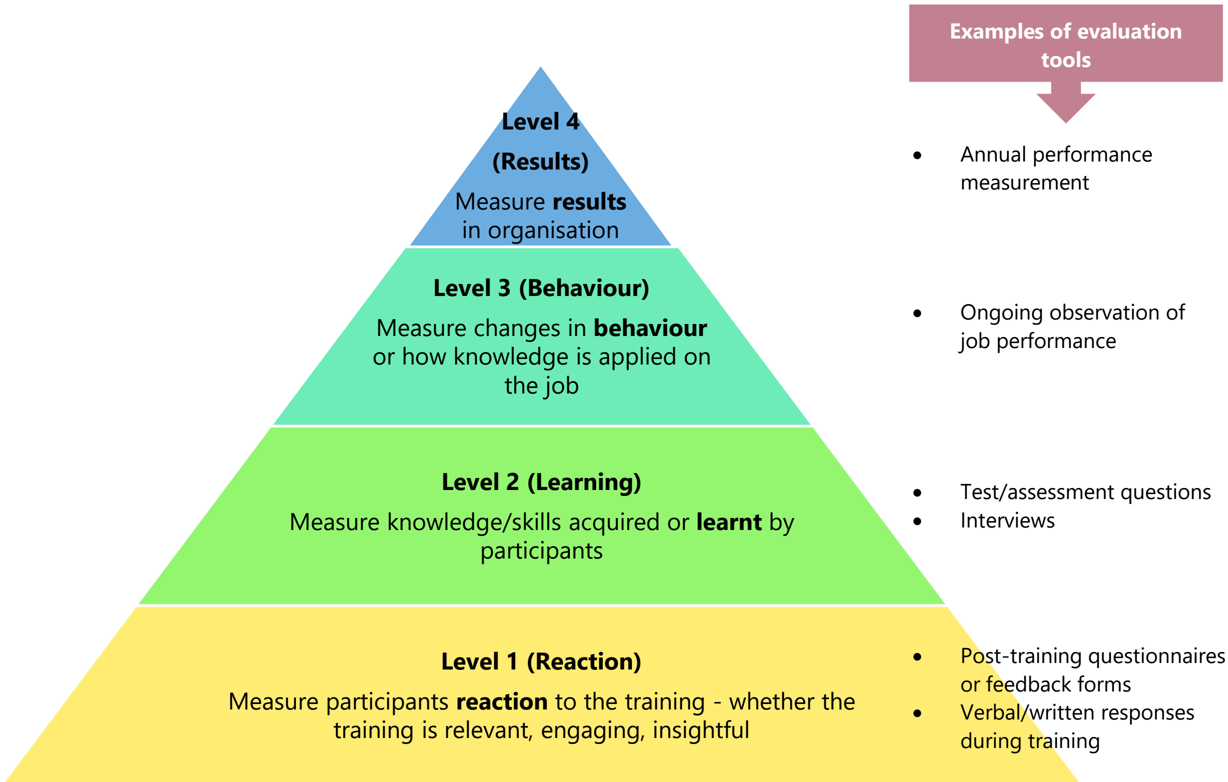
- raise awareness on emerging topics and their prudential relevance;
- be able to develop regulatory policies based on sound technical understanding of the subject matter; and
- equip staff members to conduct effective supervisory activities.

A common evaluation model to assess the effectiveness of capacity development programmes is the Kirkpatrick model, as described in Box 1.

Box 1

Kirkpatrick learning evaluation model

One of the best known learning evaluation models is the Kirkpatrick model, named after Donald Kirkpatrick, former president of the American Society for Training and Development. Since he introduced the model in 1959, it has remained relevant and is still being used with various adaptations. In general, the Kirkpatrick model outlines four levels of learning evaluation – reaction, learning, behaviour and results as shown in the graph below. The extent to which the evaluation results are insightful and the efforts needed to undertake the evaluation increase from one level to the next.



52. **The most common way of assessing programme effectiveness is to collect feedback from participants.** However, methods that assess behavioural changes are preferred despite being more difficult to carry out. As with any methodologies, there are pros and cons that must be borne in mind. At face value, participants' feedback is appealing as it reflects the views of the target audience of a programme. In addition, it is easier to gather participants' feedback than to measure how a particular training programme contributes to fulfilling an authority's mandates. Nevertheless, the limitations of Level 1 evaluation must be duly acknowledged, which can arise from biased feedback (both positive or negative). Participants may deliberately (and misleadingly) provide negative feedback if they hold a grudge, for instance when forced to undergo a programme that they do not deem relevant, especially amidst time pressure to deal with other work commitments. Positive feedback may be inaccurate if there are unintended incentives such as excursions or free gifts provided as part of a programme. Making the provision of feedback mandatory can also skew the response if participants rush through the questions without much thought. Nevertheless, there is little doubt that participants' feedback is a useful input, but it should be accompanied and validated by other sources of information including the judgment of learning and development experts.

53. **The most common key performance indicators (KPIs) used by the authorities are the number of training hours per employee and staff feedback ratings.** Other examples of such indicators currently used in practice are as follow:

- number of training hours by topic;
- percentage of staff: completing at least one programme/course, completing a particular programme/course, providing lowest/highest ratings, who passed scored assessments, nominated for professional certifications or nominated for post-graduate studies;
- total viewing time of recordings or courses; and
- total time spent on self-study materials or courses.

Looking at these indicators over time may reveal insightful trends, especially when broken down into more granular levels for example by business units, length of hire, job family or grades or even by topic. Benchmarking these statistics against other measures such as past averages could also provide useful information for monitoring the take-up of capacity development programmes. While quantitative KPIs have limitations in terms of measuring the impact of capacity development programmes, they are useful as one source of information and are often monitored by senior management.

54. **Some authorities use qualitative measures to obtain insights on the impact of capacity development programmes though such measures may not be easily synthesised due to their subjective nature.** These measures are referred to as Levels 3 and 4 in the Kirkpatrick model and involve identifying behavioural changes in terms of improvements in work performance or evidence of the application of knowledge gained in work activities. Some authorities seek feedback from managers of the trained staff members to gauge any observed improvements in their knowledge and performance. Interestingly, one of the authorities evaluates the impact of a particular programme by asking participants to deliver a mock presentation to their managers on the topics covered in the programme. Another authority requires participants to describe how they plan to put into practice the knowledge or skills learnt. Apart from such feedback from participants, subject matter experts or external learning professionals can be engaged to review the structure, design and content of capacity development programmes.

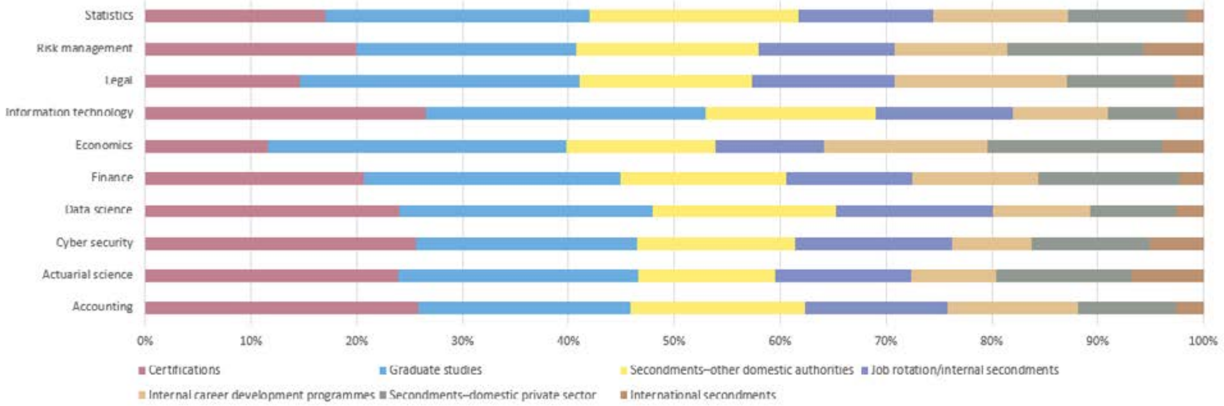
Other capacity development tools

55. **Besides formal or traditional capacity development programmes in the form of training, authorities have other tools that they can use to build capacity.** Our study found that other tools being used by authorities include leveraging professional certification programmes, academic qualifications, job rotations and secondments. Professional certifications and academic qualifications are useful in ascertaining a minimum level of knowledge and competence in a specific area such as accounting, actuarial, legal or economics. There are other advantages of professional designations for accountants, actuaries and lawyers, among other professions – these professionals are subject to the code of conduct of their professional bodies and they are required to keep their knowledge up to date through continuous professional development requirements. Nevertheless, the professional or academic syllabus is typically broad as it needs to apply to a wide range of industries. As such, new supervisory staff with such professional designations may face some challenges in applying their skills and knowledge to the unique nature of financial sector regulation and supervision. Job rotations and secondments, whether internally within an organisation, or externally to other domestic or international agencies, can provide practical knowledge or on-the-job training.

56. **Authorities recognise that inward and outward secondments can fill skills gaps through the transfer of knowledge from industry practitioners and augmentation of internal capacities.** Some authorities have secondment programmes to source external experts to plug internal skills gaps, especially in fast-moving areas such as technology. Data scientists or cyber security experts from the industry or from academia may be seconded to a financial authority to undertake certain regulatory and

supervisory responsibilities as well as to train internal staff. External secondments to other domestic or foreign financial authorities or institutions – for example academia, ministries and international organisations – can also be a route to improving staff skills. For instance, the JFSA seconds its staff to universities to gain expertise on technology-related topics such as blockchain, while the MAS leverages both inward and outward secondments with its national cyber security agency. There are, however, challenges associated with secondments including having limited headcount to second staff externally, finding appropriate secondment opportunities or putting in place a structure that exposes the staff member to practical skills that can be applied when they return to their positions. In addition, secondment programmes should have clear processes for secondees to transmit or apply their knowledge and expertise when they return to their authorities. See Graph 8 for the "non-traditional" approaches used by authorities.

Other capacity development tools Graph 8



Source: FSI survey of financial supervisory authorities.

57. **Authorities realise that "softer" capacity development tools can contribute to a vibrant capacity development ecosystem and support a culture of multi-channel continuous learning.** Such tools include on-the-job training through job rotations and internal networking as well as other mechanisms to support idea generation. For example, APRA views training as only one part of the learning journey in building skills – other tools such as on-the-job application, feedback and coaching are essential for converting knowledge and awareness into tangible skills. Several authorities, for example the JFSA and MAS, have an established job rotation programme at regular intervals (eg every two to three years) to expose staff members to different core functions of the organisations. Such an approach can be effective to build capacities in different financial domains, particularly for integrated regulatory authorities that supervise multiple financial sectors. Nevertheless, some authorities may prefer a more measured approach to allow staff sufficient time to develop specialist knowledge within a particular supervisory area.

58. **Removing internal barriers for cross-departmental interaction is important to facilitate the informal transfer of knowledge from senior to junior staff members.** Some authorities such as the BSP have formal mentoring programmes that pair up staff members to discuss ways to improve soft skills that are unique to the organisation and culture, for example dealing with peers and managers, resolving conflicts and undertaking tactful collaboration and communication approaches. Peer-to-peer learning is another approach. Some authorities such as the Central Bank of Brazil leverage technology by creating an online space for staff members to share useful information resources or even post questions and answers. The JFSA has established an Open Policy Lab to encourage its staff members to develop their ideas into concrete policy proposals. As part of this initiative, it provides support to staff members to voluntarily examine problems relating to financial supervision and to publish the outcomes as research papers.

Section 4 – Factors contributing to successful capacity development

59. **Financial authorities have different capacity development strategies but there are elements that are common among them and that can help in making strategies more effective.** These include aligning the strategy with the institutional thrust or mandate and supervisory/regulatory priorities. Identifying skills needed over the immediate and longer term based on the existing and projected talent gap is also necessary to inform the strategy. Consulting with different stakeholders is likewise key to coming up with a coherent and well informed strategy that can meet the skills needs of those stakeholders responsible for fulfilling the authorities' core mandates. Strategies should also be designed in a holistic way, incorporating non-training capacity development activities as well as other considerations. The following discuss the essential elements of an effective capacity development framework in detail.

a) Capacity development strategies need to be institution-wide and aligned with institutional mandates and reflect regulatory/supervisory priorities. Authorities should put in place institution-wide strategies that describe their capacity development objectives, priorities and approaches. They should align these strategies with their missions as reflected in their supervisory/regulatory priorities. These priorities, in turn, inform the identification of the skills needed. For integrated supervisors, the strategies need to adopt the broader perspective required for overseeing the whole financial system while at the same time taking account of the specialised skills required to oversee the different sectors under their remit. Authorities may also need to consider national priorities, as is the case in Singapore's MFDP, mentioned in Section 2.

b) Capacity development strategies have to be clear about the skills, both technical and non-technical, which need to be developed. Authorities need to assess their existing skills/talent gaps based on their supervisory/regulatory priorities. These skills are both technical and non-technical in nature, and include soft skills. Many authorities do this on an annual basis and others have a multi-year approach. In one authority, the training division coordinates with the different units to identify capacities that need to be developed in the short and medium terms and the corresponding training activities required. Another authority conducts a training needs analysis through feedback from heads of departments to identify immediate business needs. Such a bottom-up approach should be balanced with top-down perspectives based on an authority's long-term skills needs and available resources.

c) Capacity development strategies, the formulation of which are typically led by a dedicated function, benefit from consultation with and participation from different internal stakeholders. Doing this addresses the expectations of different stakeholders and develops a sense of ownership. SSM, which oversees banking supervision in the EU, works in close coordination and partnership with EU national competent authorities in order to better understand skills gaps on the ground. For national authorities, on the other hand, there is value in closely engaging with supervision staff in the development of their training strategy and the design of their training programmes, as well as in the running of them. For example, BdI has an annual exercise in which its training division coordinates with the different business areas, including banking supervision, to identify skills that need to be developed in the short and medium terms, and related training activities. This close engagement and coordination, particularly between supervision staff and the capacity development function, also helps in the eventual implementation of the strategy.

d) Capacity development strategies should include learning opportunities beyond training. Training is just one way to learn but most of the useful learning actually happens on the job. This is the reason why, as mentioned in Section 3, authorities also pursue other capacity development activities, such as secondments, coaching/mentoring and internal rotations.[23] Some of these activities are part of a civil service career path, particularly at central banks, that enable the attraction and retention of expert staff over a long period of time. Mandating the number of training hours should be weighed against the major challenge of staff lacking time to undertake such programmes and the broader contributing factor of staff shortages. Authorities, therefore, should pay sufficient attention to non-training learning opportunities in their overall capacity development strategy. Moreover, the strategy should be designed to suit the learning culture in the organisation but at the same time strive to develop an appropriate culture, one which is needed to achieve the overall capacity development objectives.

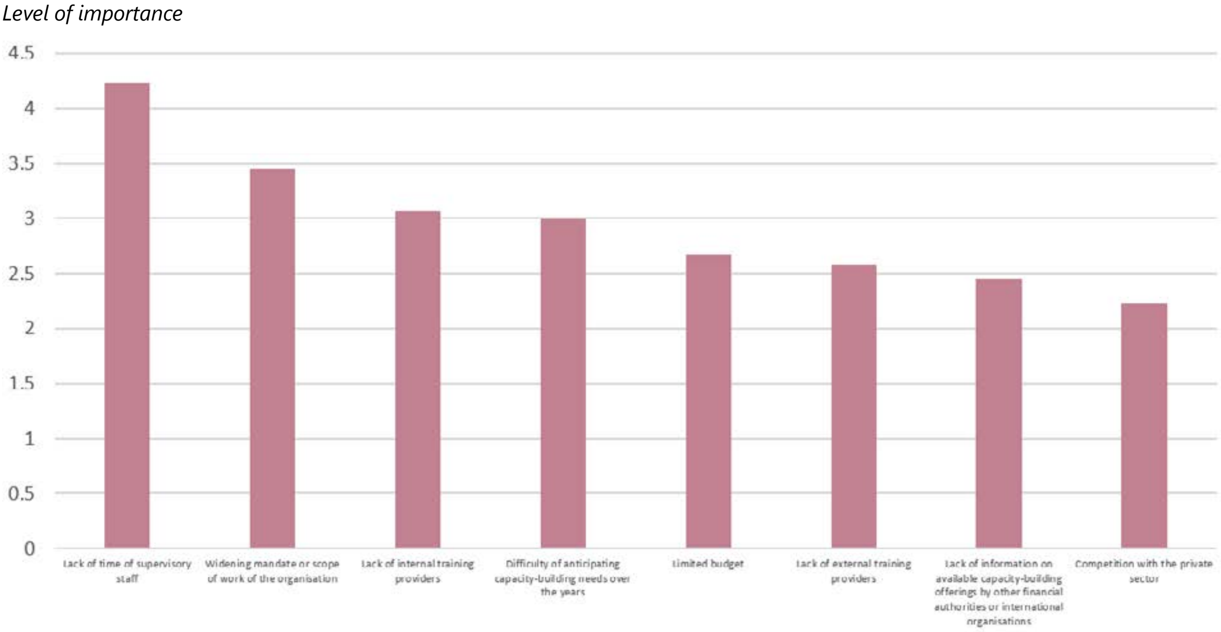
e) Capacity development strategies can be more effective if designed in a holistic way. It is preferable for such strategies not to focus only on the workforce skills that need to be developed but to also include the necessary organisational, technological and learning infrastructure. MAS's capacity development plan, for example, also looks at key digital capabilities required, the organisational structure and culture to enable effective change, and the ecosystem needed, which includes potential partners. In terms of digital capabilities, authorities need to determine the appropriate role of technology in the delivery of their capacity development activities. Concretely, this may include front-end systems through which staff members access learning content as well as back-end systems in which administrators can monitor study progress and manage user and content accessibility. In terms of organisation, there is generally a natural reliance on internal subject matter experts to deliver training programmes since they are most familiar with the institutional approach and practices. It is therefore important for authorities to consider how these internal experts can effectively contribute to capacity development. This may entail, for example, putting in place a sound incentives framework for trainers. In terms of potential partners, authorities' strategies could benefit from exploring how external partners, such as universities, training institutions and international organisations, can support the identification of appropriate solutions to capacity development needs.

Preconditions for an effective implementation of capacity development strategies

60. **Implementing capacity development strategies, however, entails some practical challenges, and foremost among these is the lack of time for capacity development.** From the choices given to survey respondents (see Graph 9), they ranked "lack of time of supervisory staff" as the most challenging issue. Staff are so heavily engaged in day-to-day supervision work that finding time for training is difficult. In second place, although significantly behind, is the "widening mandate or scope of work of the organisation". However, this leads to other challenges that were mentioned by respondents. These include challenges in recruiting specialists and finding training experts that are needed to respond to the widening mandate. Authorities also face the challenge of high staff turnover and competition with the private sector for specialists/experts. This is a general problem faced by many financial supervisory authorities which fall under the public sector salary system and are therefore less attractive for prospective hires. They also face challenges when trained staff members leave to join the private sector, thus requiring reinvestment of resources in further staff training.

[23] Internal rotation, however, may also have its drawbacks particularly if a staff member is moved to a completely different function. For example, it takes years to train a good on-site examiner. If an examiner is transferred out of the supervision function, then all of their previously completed on-site examination training will be put to waste.

Challenges to achieving capacity development objectives Graph 9



Source: FSI survey of financial supervisory authorities.

61. **Authorities also mentioned other important challenges to capacity development.** Procurement procedures that are too bureaucratic are hampering efforts to hire specialist trainers or acquire new learning management systems. Authorities also recognise the inherent limitations of training and the need for staff to learn on the job. The latter would require coaching from more senior staff or managers, which leads back to the challenge of lack of time. Many authorities are experiencing a shift in the demographics of their supervisory staff. As they expect a large group of supervisors to retire shortly, training younger/newer staff is becoming very urgent. Finally, authorities are struggling to find or develop useful metrics for assessing skills gaps/needs and evaluating the effectiveness of their capacity development initiatives.

62. **The BCP and ICP assessments indicate that financial resources, ie budget, is a big challenge.** Respondents ranked "limited budget" fifth in terms of importance among the challenges given as options in the survey. Interactions with authorities, however, reveal that, while there is progress, the staffing and budgetary resources allocated to responsible unit(s) are often not commensurate with the increased level of learning and development work required. This is particularly the case in the context of rapid and structural changes in financial markets and corresponding supervisory/regulatory priorities.

63. **To address at least some of these challenges, there are certain preconditions that support the effective implementation of capacity development strategies.** Common themes communicated by the interviews include strong governance, including support from top management, and making sure line managers are aligned with the strategy and allow sufficient training time for their staff. Authorities also point to the importance of efficient operational processes when implementing their capacity development strategy. Some authorities, meanwhile, think that linking capacity development activities to incentive mechanisms would lead to more effective implementation. Lastly, implementation of a strategy would likely benefit from having flexibility in terms of the delivery of capacity development activities and the design of the learning content, as well as transparency about available capacity development opportunities. These preconditions are discussed in turn below.

a) Implementation of capacity development strategies need to have strong support from top management and buy-in from line managers. The approval (or endorsement) of the strategy at the highest level of the organisation usually sends a positive message about the importance of staff learning and development for the institution. This message tends to be further enhanced by the involvement of top management in the formulation and oversight of the strategy, as well as their commitment to providing sufficient resources for capacity development (see the next paragraph). Furthermore, line managers directly influence whether their staff have enough time for training and other capacity development activities. Without their support, the challenge noted earlier about the lack of time which staff have for training would be difficult to address. As noted in Section 2, BSP line managers provide ample time for staff to participate in training. This is also the case at MAS, where management believe that they will lose their competitive advantage if staff members are not given access to training/learning opportunities. Indeed staff may leave and join the private sector and this is particularly true for the capacities/skills needed in emerging areas such as technology and climate risk where there is stiff competition for talent. More broadly, a lack of time for training can be symptomatic of a general lack of staff resources which needs to be addressed by the top management.

b) Implementation of capacity development strategies should be carried out by a well resourced capacity development function and aided by the clear assignment of roles and responsibilities. As mentioned in Section 2, a sound formulation and implementation of the strategy requires a dedicated function with adequate staffing, budgetary and technological resources. These resources are indispensable to acquire the standing and stature necessary to roll out the strategy throughout the organisation in a credible way. This credibility requires clarity as to who is responsible and accountable for delivering the different aspects of the strategy. In the JFSA, for example, in addition to HR, individual business areas are responsible for identifying their respective training needs and designing their training programmes. However, it is HR that is responsible for implementing and coordinating these different programmes, and it is HR that is accountable for their effective implementation.

c) Implementation of capacity development strategies is more effective when there are efficient processes in place. As mentioned above, inefficient procurement procedures are one of the challenges to achieving capacity development objectives identified by authorities. Authorities need to adhere to the standard rules and policies applicable to public authorities in their jurisdictions, but these may not be as flexible as in the private sector and procurement may therefore take longer. This could pose a challenge to hiring trainers especially on emerging topics which are likely to be in high demand, as well as in acquiring cutting-edge learning management systems. Efficiency also applies more broadly, including, for example, in the choice of learning technologies. Technology should facilitate access to learning platforms, and make it easier to find and consume relevant learning content. Authorities are trying to improve efficiency by streamlining their procurement processes, and reducing operational and technological impediments more generally.

d) Implementation of capacity development strategies could benefit from being linked with incentive mechanisms. Ideally, authorities aim for a learning culture in which staff members voluntarily share and acquire knowledge and skills based on self-assessments. The reality, however, is that staff members need to balance their time between capacity development activities and work responsibilities. The latter are often prioritised, given the clear and immediate career implications. Accordingly, there seems to be a role for incentives for staff to engage in capacity development activities. In the BSP, for example, training contributions (eg as a trainer) are directly recognised in performance reviews. Training sessions are also linked to staff professional development plans, which have an impact on promotions. Similarly, in other authorities, capacity development plans are linked with succession plans. Aside from providing incentives, this also aligns skillsets that need to be developed as a staff member progresses up the corporate ladder. Some authorities have no explicit incentives for staff to undertake training. Nevertheless, they rely on indirect incentive methods. For example, the BdI use recognition, selection for specific assignments and career progression, among other tools, as indirect incentives. Some authorities use their performance evaluation frameworks to indirectly incentivise staff to continuously update their knowledge and skills. However, linking training to incentives – whether directly or indirectly – could lead to staff burn-out. MAS is trying to address this issue by introducing a "Focus Friday" initiative in which no meetings are held on Fridays so that staff can focus on learning and finishing up their work before the weekend.

e) Implementation of capacity development strategies should be integrated (or consistent with) broader institutional people strategies. The offering of technical and non-technical learning and development opportunities needs to be integrated with institutional approaches towards career progression, succession planning and flexible working conditions, as well as diversity, inclusion and employee wellbeing. This integration has the potential to enhance staff engagement, satisfaction and a positive working environment, and in that way help the authority to retain and attract staff.

f) Implementation of capacity development strategies should provide some flexibility and transparency. Flexibility is necessary in terms of when and where capacity development opportunities happen as well as in the design of learning content. Authorities realise that delivering training in an asynchronous manner is important. Authorities also noted that they need to be prepared to train staff wherever they are (ie whether at home or in the office). As such, multiple delivery formats are necessary. Staff should be able to train when and where they need it and at their own pace. Having this flexibility would help address the challenge of staff not having sufficient time for training. On the other hand, capacity development programmes, however established, do not run themselves. Every year or in every new version, their content may require updating due to new legislation, new regulatory pronouncements, new supervisory practices, new industry practices or emerging industry trends. Having flexibility to make regular updates ensures that the programmes remain relevant. Finally, transparency about capacity development strategies and corresponding initiatives would help to keep staff informed about the types of institutional support they can expect in enhancing their capabilities and skills.

g) Implementation of capacity development strategies should include an assessment framework to measure effectiveness. Assessing the effectiveness of capacity development strategies and associated specific programmes is critical in order to identify their cost effectiveness. This is especially important given scarce resources, both from the perspectives of programme recipients (in terms of lack of time) and programme providers (in terms of training availabilities). A starting point in establishing an assessment framework is to clearly identify the intended outcomes of a capacity development programme.

Section 5 – Conclusions

64. **Supervisory capacity development is a journey that never ends.** Capacity development is important for authorities to carry out their functions effectively. This is well recognised in global supervisory standards. However, fast-moving developments in the financial sector, as well as additional mandates imposed on supervisory authorities, have made acquiring the necessary supervisory skills quite difficult. External assessments of the implementation of the BCPs and ICPs highlighted capacity development as a challenge for achieving effective financial supervision across jurisdictions. If this is not addressed, it will have implications not only for the soundness of supervision but for financial stability more broadly.

65. **While traditional financial capabilities remain core to financial supervision, the importance of skills related to recent developments in finance, especially on technology and climate, has**

increased. Traditional supervisory capabilities, such as finance, accounting and risk management, remain of paramount importance to financial authorities. Nevertheless, skills related to the digitalisation of finance and climate-related financial risks have increased in significance over the years. This trend is reflected in the hiring practices of financial authorities, which still put emphasis on traditional skills but are putting increased weight on technology-related skills. These changes in the skills deemed important for financial supervision need to be considered as part of authorities' capacity development initiatives.

66. **In addition to technical skills, authorities are also putting a lot of emphasis on enhancing the soft skills of their staff.** These include leadership, communication and critical thinking skills. Developing and improving these skills is important for authorities because soft skills help them to implement a risk-based supervisory framework effectively. These skills also contribute to effective dialogue with supervised institutions and this contributes to better resolution of issues.

67. **Financial authorities adopt a range of capacity development practices, but important insights that are worth highlighting include:**

- Having a clear curriculum for the capacity development of supervisory staff that targets all levels of competencies and seniorities is essential to provide a structured guide that supports continuous professional development. Financial authorities generally adopt a building block approach to capacity development that differentiates between foundational, intermediate and advanced levels of expected staff competencies. While most of the focus of capacity development programmes is on technical staff, there is a clear need to devote sufficient attention to mid and senior managers as well.
- Although there is no one-size-fits-all approach that can fulfil the capacity development needs of financial authorities, a blended learning approach is widely acknowledged as an effective one. There are merits to both in-person or virtual delivery approaches, as well as longer or shorter courses. Nevertheless, it is generally acknowledged that a blended learning approach, combining in-person and online training deliveries, is emerging as the preferred training approach as it combines the convenience and flexibility of online deliveries with face-to-face interactions. Programmes can be delivered on a "push basis" ie prescribed for staff to take, or authorities can adopt a more "demand-based" approach whereby staff members are responsible for their own capacity development needs. Innovative content delivery approaches can be helpful to improve the effectiveness of capacity development programmes.
- Training programmes should be adaptive to the changing needs of financial supervision and should cover important emerging topics – both technical and non-technical – on a timely basis. Increasingly, a basic understanding of fintech or climate risks is essential to core supervisory work, and correspondingly, authorities are starting to include these topics as part of mandatory and/or fundamental programmes. In addition, supervisory capacity development programmes go hand in hand with broader human development skills. An essential element of an effective supervisory capacity development programme is for staff to have "enabling" competencies such as professionalism, integrity and teamwork that are typically offered as soft skills training.

68. **While financial authorities are facing challenges, there are general factors that could contribute to the success of capacity development programmes.** The lack of time which staff have for training and the widening mandates of supervisors are the two most often cited challenges. The latter could also be associated with other challenges, including difficulty in recruiting specialists and/or finding training experts. In terms of factors that could contribute to capacity development success, there are certain elements that could be considered in developing capacity development strategies. These include aligning the strategy with institutional mandates and regulatory/supervisory priorities; clearly identifying skills requirements; having a dedicated function (or ideally a dedicated unit) for capacity development; closely consulting with relevant stakeholders; incorporating a range of capacity development activities – both training and non-training; and taking into account considerations such as technological capabilities, internal organisational support and external partnerships. There are also preconditions that support the

effective implementation of capacity development strategies. These include support from management; strong governance arrangements, including assigning clear responsibility and accountability; efficient processes; incentive mechanisms; integration with broader people strategies; flexibility; and transparency.

69. **Capacity development in financial supervisory authorities can benefit from additional efforts to share practices and experiences at the international level.** As noted earlier, financial authorities in all jurisdictions face challenges related to supervisory capacity development. There is therefore mutual interest among national authorities on this topic. There is also much to be gained from sharing insights on practices and experiences. The FSI, for example, periodically co-organises a symposium with the IMF on capacity development that brings together providers, recipients and donors of international capacity development programmes.

Annex 1 – List of survey respondents

1. Australian Prudential Regulation Authority
2. Bangko Sentral ng Pilipinas
3. Bank of Israel
4. Bank of Italy
5. Bank of Spain
6. Bank of Thailand
7. Central Bank of Brazil
8. Central Bank of Kuwait
9. Central Bank of Malaysia
10. Central Bank of The Bahamas
11. Central Bank of the United Arab Emirates
12. Deutsche Bundesbank
13. European Central Bank – Single Supervisory Mechanism
14. Board of Governors of the Federal Reserve System
15. Financial Market Commission (Chile)
16. Financial Services Agency (Japan)
17. Financial Services Authority (Indonesia)
18. Financial Superintendency of Colombia
19. French Prudential Supervision and Resolution Authority
20. Monetary Authority of Singapore
21. Office of the Superintendent of Financial Institutions (Canada)
22. Prudential Regulation Authority (United Kingdom)
23. Reserve Bank of India
24. Saudi Central Bank
25. Superintendency of Banking, Insurance and Private Pension Fund Administrators (Peru)
26. Swiss Financial Market Supervisory Authority

Annex 2 – Designing a course curriculum for financial sector supervisors

Design choices

In designing a curriculum about financial sector supervision, authorities need to consider various factors including the following:

- **Objective:** set clear learning objectives for each component of the curriculum, bearing in mind the learning needs of the target group.
- **Topics:** identify topics to be covered within each component of the curriculum.
- **Resources:** identify training resources eg off-the-shelf study materials, internal/external experts and the availability of budget to cover the cost of trainers or learning management systems.
- **Format:** identify learning objects and activities as well as the delivery modalities eg asynchronous or synchronous or a combination of both; virtual or in-person or blended learning.
- **Mandatory/voluntary:** determine components of the curriculum that are compulsory; and learning items that are mandatory or optional within each course.
- **Updates:** establish a process to regularly update the curriculum in terms of content and format, avoiding unintended disruptions to those in the middle of the existing curriculum.
- **Sustainability:** design a curriculum that can continue to be delivered effectively in the future, taking into account (financial and human) resource availability and projected headcount.

Jurisdictional examples

At a regional level, the Association of Supervisors of Banks of the Americas (ASBA) has published *Core principles for the development of effective bank supervision capacity-building program*, which lays out nine principles that can be used as a reference for banking supervisory authorities in developing new, or strengthening existing, training programmes.[24] One of the principles covers how authorities can establish a training curriculum that outlines the prerequisite knowledge and competencies that supervisors must have. The principle is further elaborated in a supplementary document that provides a practical example of a training curriculum for bank supervisors.[25]

In the Philippines, the BSP Financial Supervision Sector (FSS) implements a curriculum-based training programme designed to address the foundational training needs of BSP bank supervisors. The FSS Professional Excellence Program for Bank Supervisors (PEPS) is a graduated programme with courses grouped into entry, intermediate, advanced and expert levels. The courses are comprised of prerequisite (asynchronous) FSI Connect tutorials as well as pre-recorded lectures and live discussions facilitated by subject matter experts. Case studies continue to be conducted in person. Recently, the FSS introduced special courses under the PEPS framework to cover areas of increasing importance considering developments in the financial industry and relevant statutes.

In the European Union, the SSM is developing a three-pillar curriculum for its bank supervisors. At the foundational level, this enhanced curriculum will offer an SSM Fundamental Qualification Programme covering the minimum level of common supervisory knowledge for newcomers. The second pillar will focus on specialised programmes at an advanced level on key topics, to equip supervisors with knowledge and skills they need to perform their current and future jobs in an effective and efficient way.

[24] ASBA (2021a).

[25] ASBA (2021b).

For example, in 2021, the SSM launched a digitalisation learning path, which was expanded in 2022, as well as several other initiatives in the field of climate and environmental risks. The third pillar will consist of innovative learning programmes – the results of cooperation between academia and national supervisory authorities – to offer supervisors opportunities to keep abreast of trends and changes in the supervisory landscape through short, modern learning formats.

Annex 3 – Capacity development on fintech and climate

Fintech – the need to see both the forest and the trees

Capacity development in the area of fintech is receiving considerable attention from authorities. The survey results show that technology-related skills have significantly increased in importance in financial sector supervision. While this is reflected in the hiring practices of authorities, fintech is a fast-moving field. Capacity development programmes on fintech can therefore help regulatory and supervisory staff to keep up with fintech developments.

Typically, capacity development programmes on fintech include an overview of fintech-related activities (eg digital banking, crowdfunding, digital payments and insurtech). This may be accompanied by deep dives into specific fintech business models to give participants a more practical understanding. Such programmes may also include an overview of the technologies that enable fintech (eg artificial intelligence/machine learning, cloud computing and distributed ledger technology). After these overviews, the most important part of the programmes is the examination of prudential, conduct, financial stability and other risks arising from different fintech activities and associated technologies. This is complemented by a comparison of regulatory approaches from authorities in key jurisdictions, as well as consideration of how existing (or any future) regulations in the local jurisdiction may be used to address the risks. Such policies and regulations include those relating to digital IDs, data protection, cyber security and open finance. Finally, specialised programmes may also be offered on areas that are of current interest to authorities, such as cryptoassets and big techs. For example, in 2022, the FSI launched a pilot online course on finance, innovation and technology (BIS-FIT) that provided an overview of fintech activities, enabling technologies, policy responses and cyber resilience.

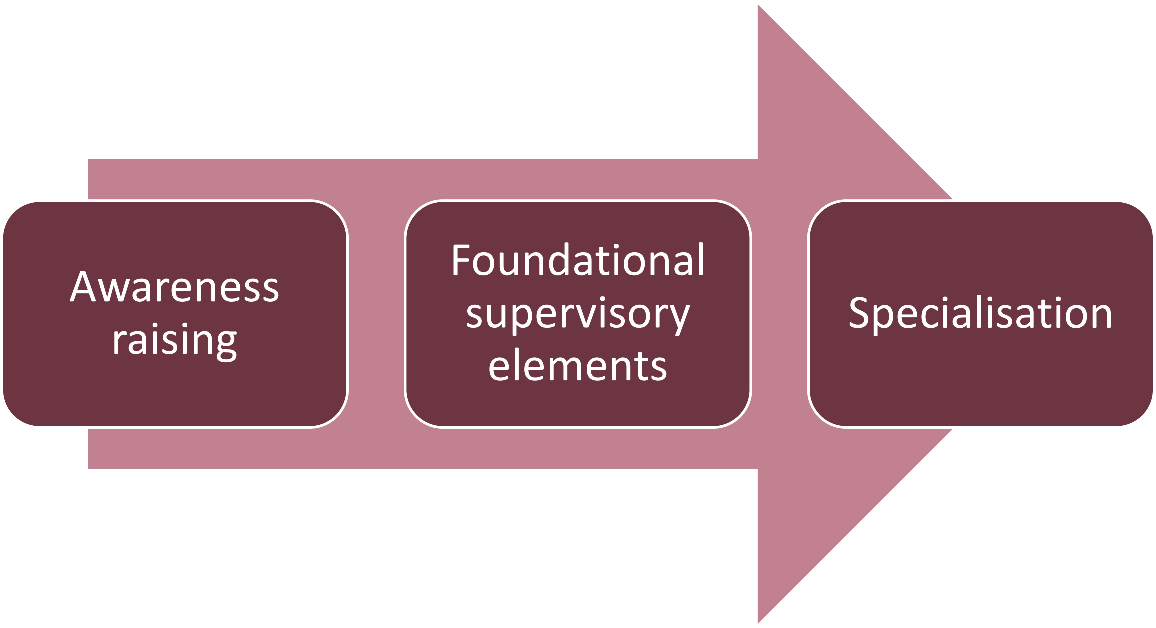
As mentioned, the main challenge with fintech is its highly dynamic nature. Fintech is also a catch-all term that includes any use of innovative technology in the provision of financial services. So the scope of any fintech capacity development programme is both wide and constantly changing. Consequently, a programme's learning content needs to be constantly updated otherwise it can easily become irrelevant. Discussions with authorities indicate that new technology-related topics can be incorporated into existing programmes to keep them relevant. Furthermore, there is a limited amount of "foundational" supervisory content that fintech programmes can reuse. This makes it difficult to build a baseline of knowledge and, as a result, it is necessary for staff members to regularly attend new offerings of the programme to update their knowledge. Another implication is that it makes it challenging for authorities to develop internal subject matter experts on fintech just by relying on capacity development programmes.

Authorities are addressing these challenges by utilising external experts in their fintech capacity development programmes. These include experts from the industry as well as from academia and international organisations that closely monitor fintech developments. In addition to traditional programmes, authorities have found ingenious ways to get plugged in to the newest fintech developments and understand their regulatory implications. They have, for example, established regulatory sandboxes, and innovation hubs and accelerators.

Climate training – getting hotter by the day

Capacity development in the area of climate-related and environmental risks is at the top of the agenda of many central banks and supervisory authorities. Senior officials acknowledged the need to upskill and to do so quickly in this area given deteriorating climate risk indicators as well as sluggish progress in the transition to net zero carbon emission targets. Both factors will ultimately impair the financial soundness of financial institutions and, eventually, financial stability itself through transmission channels that are, by now, well established.

In general, capacity development programmes on climate-related topics often start with raising awareness of the prudential relevance of climate change. Topics covered at this stage would include the basics of climate science (eg explaining the rationale of the 1.5–2°C temperature increase target). Once the prudential relevance is established, supervisory staff can progress to improving their understanding of how existing regulatory frameworks can be adapted to address financial risks arising from climate change. At this stage, topics such as corporate governance, risk management, disclosure and the supervisory review process can be covered. An area that typically attracts a lot of attention relates to climate stress testing or scenario analysis. This is because the highly uncertain nature of climate-related financial risks makes stress testing or scenario analysis the preferred risk assessment tools. Having covered the basic supervisory elements, supervisory staff can move on to specialise in a certain topic, depending on their work responsibilities. Specialist topics can relate to supervisory tools such as deeper dives on climate stress testing or disclosure regimes, or in terms of risks such as climate-induced credit risk or insurance risk.



One of the challenges is the difficulty in establishing a structured curriculum or learning path to guide supervisory staff, not least at different levels of seniority or specialisation. The situation is complicated by a growing number of training providers and materials, as well as the lack of globally accepted standards or supervisory approaches. To illustrate this problem, one can conduct an internet search on "climate training", which will reveal myriads of training resources. But what topics do these training resources relate to, and what criteria can a central bank or supervisory authority use to identify a provider that best meets their needs? These are not easy questions to answer.

To partially address this issue, the BIS-IAIS-NGFS-SIF Climate Training Alliance aims to facilitate the capacity development of supervisors and central bankers.[26] Its portal provides information on live training events as well as self-study materials provided by the global supervisory community to their peers.

[26] See Network for Greening the Financial System (2022) for the mandate of its Task Force on Capacity Building and Training.

Annex 4 – FSI Capacity Development Strategy

Innovation BIS 2025 is the BIS's medium-term strategy to adopt continuous innovation to deliver added value to its stakeholders and respond to their evolving needs amid rapid economic and technological changes. The FSI supports this strategy through its capacity-building and knowledge-sharing work, especially in technology-related topics and financial crisis management, to help supervisory authorities address ongoing and new supervisory challenges.

In terms of training, the FSI is pursuing a fully digital approach, delivering training through virtual means. Specifically, the FSI offers the following:

- online courses, which are fixed duration virtual programmes (eg two months) on a specific theme (eg banking supervision), delivered through a combination of asynchronous (mainly FSI Connect tutorials) and synchronous (live webinars);
- FSI Connect, which is a library of asynchronous self-study tutorials covering international standards of financial sector supervision, sound supervisory practices as well as emerging topics of interest (such as fintech or climate risks) to the supervisory community; and
- one-off regional virtual seminars on topics of interest to the respective regions.

The first FSI online course, the FSI-IAIS Regulatory and Supervisory Training (FIRST), was launched in 2014, focusing on the fundamentals of insurance supervision. This was followed by the BIS-IMF Supervision and Regulation Online Course (SROC) on banking supervision that was launched in 2018, and a pilot FSI-IAIS Specialised Insurance Online Course in 2021. In 2022, the FSI significantly expanded its online course offerings from these two courses to five courses, piloting new online courses on bank resolution (in collaboration with the IMF), fintech (in collaboration with other BIS units) and climate risks (in collaboration with the NGFS). The pilot editions are useful to gather feedback from the target group of participants in order to fine tune the courses when they are rolled out on a more stable or regular basis in the future.

To date, the FSI's online courses have been attended by over 4,500 participants from over 150 jurisdictions. Although the feedback received over the years is generally encouraging, the FSI notes the following key points in conducting online courses for financial regulators and supervisors:

- buy-in from managers is very important, particularly in providing sufficient time for staff members to go through the course materials and attend the live webinars;
- setting clear course objectives and specifying the specific target audience is critically important to avoid misaligned expectations and negative feedback that the course is too basic or too advanced;
- it can be challenging to make online courses interactive – various modalities need to explored, for example posing regular questions during or at the end of live webinars, or providing avenues for participants to pose questions throughout the course (even offline);
- there is no one-size-fits-all template for the format of online courses – some courses may need to deliver more content in the form of live webinars compared with self-study tutorials, particularly in fast-developing areas such as technology;
- while the high upfront setup costs/resources needed for an online course should be offset by future dividends in terms of lower running costs and fewer resources, it is crucial to review the course syllabus and refresh the content on an ongoing basis – in other words, an online course does not run itself; and
- providing a certificate can incentivise some participants to complete the programme.

The FSI plans to undertake a comprehensive review of its FSI Connect content and the format of its online courses to ensure that these tools continue to meet the capacity development objectives of its key stakeholders.

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