EUROPEAN CENTRAL BANK

BANKING SUPERVISION

DANIÈLE NOUY
Chair of the Supervisory Board

Frankfurt am Main, 20 February 2017

Multi-year plan on SSM Guides on ICAAP and ILAAP

To: The management of significant institutions

In January 2016, the ECB Banking Supervision published for the first time its expectations on ICAAP and ILAAP (hereafter, the Expectations), together with a description of what ICAAP and ILAAP-related information institutions should submit. While this was a major initial step towards convergence in these important areas, 2016 experience showed that there are still several areas in which improvements are necessary across banks and it will take time to arrive at an adequate level. In order to foster those improvements, we now initiate a multi-year project to develop comprehensive SSM Guides on ICAAP and ILAAP for significant institutions.

As a first step, the attached documents set out more detailed ICAAP/ILAAP principles giving the roadmap we plan to follow and stick to. Despite the potential use of different wordings in the SSM Guides, they reflect the same broad directions as ICAAP and ILAAP are strongly interconnected processes.

We would like to receive your feedback on those documents, using the respective ICAAP or ILAAP feedback template (see attachment). Comments until 31 May 2017 to Comments_on_SSM_Guides_ICAAP_ILAAP@ecb.europa.eu would be much appreciated.

Meanwhile, your institution is expected to comply with the 2016 Expectations and submit the corresponding documentation in accordance with the EBA Guidelines on ICAAP and ILAAP information

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collected for SREP purposes (EBA/GL/2016/10)[1] by 30 April 2017[2]. As a second step, leveraging on the SREP 2017 experience and taking into consideration the comments received from the institutions, we plan to review the Guides and publish them for consultation in the beginning of 2018.

With regard to the updated ICAAP principles, we would like to draw your attention in particular to the following Principle 3: "The ICAAP is aimed at maintaining the viability of the institution on an ongoing basis, covering short and medium-term assessments from different perspectives." The two perspectives (the normative and economic internal perspective) should mutually inform each other.

With regard to ILAAP, we would like to draw your attention to the fact that the SSM Guide on ILAAP has been substantially enriched. It now provides much more detailed guidance and also includes illustrative examples. We would like you to direct your efforts to enriching your ILAAP in line with our guide.

In accordance with the January 2015 letter[3], the ICAAP and ILAAP Guides are part of a wider objective to create a harmonised and effective supervision in the euro area.

Yours sincerely,

[signed]

Danièle Nouy

Please find attached:

- the SSM Guide on ICAAP
- the SSM Guide on ILAAP
- SSM Guide on ICAAP – template for comments
- SSM Guide on ILAAP – template for comments

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[1] The Final Report can be found here: https://www.eba.europa.eu/documents/10180/1645611/Final+report+on+Guidelines+on+ICAAP+ILAAP+%28EBA-GL-2016-10%29.pdf

[2] See first footnote of the "Technical implementation of the EBA Guidelines on ICAAP and ILAAP information collected for SREP purposes"

[3] https://www.bankingsupervision.europa.eu/banking/letterstobanks/shared/pdf/2015/150127letter_supervision_processes.en.pdf?ea3328419159b9309b4a08bc3098b7ad

Not relevant for SREP 2017

EUROPEAN CENTRAL BANK

BANKING SUPERVISION

SSM Guide on ICAAP

In line with the Capital Requirements Directive (CRD IV)[1] and the European Banking Authority's (EBA's) guidelines on the Supervisory Review and Evaluation Process (SREP), the Internal Capital Adequacy Assessment Process (ICAAP) plays a key role in the Single Supervisory Mechanism (SSM) SREP methodology. It feeds into many SREP assessments of business models, internal governance and overall risk management, the risk control assessments for risks to capital and the Pillar 2 capital determination process.

In the SREP, it is acknowledged that a good ICAAP reduces an institution's and its supervisor's uncertainty concerning the actual risks that the institution is or may be exposed to and gives the supervisor an increased level of confidence in the institution's ability to remain viable by maintaining adequate capitalisation and by effectively managing its risks. This requires the institution, in a forward-looking manner, to ensure that all material risks are identified, effectively managed (with an adequate combination of quantification and controls) and covered by a sufficient amount of high quality capital.

We would like to stress that the ICAAP is, above all, an internal process and it remains the responsibility of individual institutions to implement it in a proportionate manner; i.e. the ICAAP has to be commensurate with the institution's business model, size, complexity, riskiness, market expectations, etc. Our assessment will take the principle of proportionality into account.

After the experience of last year's ICAAP assessments, we observed that there is a need for improvement across banks. Below are our principles with regard to seven ICAAP areas that we will also consider within our harmonised assessment of ICAAPs as part of the SREP. Please note that, in addition, all institutions are expected to take into account ICAAP-relevant publications from the EBA and from international fora like the Basel Committee on Banking Supervision (BCBS) and the Financial Stability Board (FSB).[2] Furthermore, they should follow all ICAAP-related recommendations resulting from the SREP, such as those related to sound governance, risk management, and controls.

Principle 1: The management body is responsible for the sound governance of the ICAAP.

In view of the major role of the ICAAP for the institution, all of its key elements are expected to be approved by the management body. The management body, senior management and relevant committees are expected to discuss and challenge the ICAAP in an effective way.

Each year, the management body is expected to produce a clear and concise statement expressing its views on the capital adequacy of the institution, the Capital Adequacy Statement (CAS), which is

[1] Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC (OJ L 176, 27.6.2013, p. 338)

[2] Institutions should identify all ICAAP-relevant guidance, taking all new developments into account. Examples of such guidance include the EBA's guidelines on concentration risk and on stress testing, the BCBS's 2014 paper on sound capital planning, "A Sound Capital Planning Process: Fundamental Elements", and the BCBS's supplemental Pillar 2 guidance, "Enhancements to the Basel II framework", published in July 2009.

signed off by the management body and supported by ICAAP outcomes and any other relevant information.

The management body has overall responsibility for the implementation of the ICAAP and shall approve an ICAAP governance framework with a clear and transparent assignment of responsibilities, adhering to the segregation of functions. The ICAAP shall be subject to regular internal review and validation.

Key elements of the ICAAP

Key elements of the ICAAP include: the governance structure; documentation requirements; the methodology used to assess capital adequacy (including a well-articulated definition of capital adequacy), the perimeter of entities captured, the risk identification process and the resulting scope of material risks; the set of risk quantification methods[3] and key risk measurement assumptions and parameters (e.g. time horizon, diversification assumptions, confidence levels, holding periods); and the supporting IT infrastructure.

Management body

The management body comprises a supervisory function and a management function which may be performed by a single body or two separate bodies. Which key elements of the ICAAP have to be approved by which function depends on the governance arrangements of the institution, which are subject to national regulations, in line with Union legislation and EBA guidelines.[4]

Internal review and validation

According to Article 73 CRD IV, the ICAAP shall be subject to regular internal review. It is expected that both, qualitative and quantitative aspects, including the stress testing framework, risk capture, and the data aggregation process, shall be subject to regular internal reviews (including by the internal audit function) and validation processes. A defined process shall ensure proactive adjustment of the ICAAP to any changes that occur, such as entering into new markets, providing new services, offering new products or changes in the structure of the group or financial conglomerate.

Capital Adequacy Statement

In the CAS, the management body expresses its view on capital adequacy and explains its main supporting arguments, backed by information it considers relevant, including ICAAP outcomes. The CAS should demonstrate that the management body has a good understanding of the capital adequacy of the entity, its main drivers and vulnerabilities, the main ICAAP inputs and outputs, the parameters and processes underlying the ICAAP, and the coherence of the ICAAP with its strategic plans. The legal authority to sign the CAS on behalf of the management body is governed by national regulations.

[3] Please note that the ICAAP guide does not prescribe a particular methodology for quantifying risks. This is explained in more detail in a dedicated section on "*Choice of risk quantification methodologies*" under principle 6.

[4] See recital 56 and Article 3(1)(7) to (9) CRD IV and paragraphs 31 and 32 of the EBA Guidelines on Internal Governance (GL 44).

More details on the expected format and content of the CAS can be found in the ECB documentation "*Technical implementation of the EBA Guidelines on ICAAP and ILAAP information collected for SREP purposes".*

Principle 2: The ICAAP is an integral part of the management framework of an institution.

Pursuant to Article 73 CRD IV, institutions are expected to assess and quantify all risks that may have a material impact on their capital. By drawing the respective conclusions and taking the necessary actions, they are expected to ensure their capital adequacy from a comprehensive perspective over a medium-term horizon. As a consequence, the shorter-term perspective of (usually) one year has to be complemented by a longer-term (at least a three-year horizon) forward-looking process in line with the horizon of the bank's multi-year (capital) planning, which includes the assessment of a credible baseline scenario and adequate, institution-specific, adverse scenarios. The quantitative and qualitative aspects of the ICAAP have to be consistent with each other and with institutions' strategies, business decision-making, risk appetite, and risk management processes. The strategies and processes have to be consistent and coherent throughout the group or financial conglomerate.

Accordingly, the ICAAP supports strategic decision-making and, at the same time, is aimed operationally at ensuring that the institution maintains an adequate capitalisation on an ongoing basis, thus promoting an appropriate relationship between risks and rewards.

The ICAAP as an integral part of an institution's risk management and decision-making

The risk identification and quantification, the actual risk profile, the business strategy, the risk strategy, the risk appetite framework and the internal processes must be consistent with each other. In order to assess and maintain adequate capital to cover an institution's risks, the internal processes and arrangements must ensure that losses do not exceed the capital allocated to the underlying risks. This requires the implementation of an effective limit system, including effective escalation procedures, that is consistent with the other parts of the ICAAP framework. The ICAAP is an ongoing process. Institutions should integrate ICAAP-related outcomes (such as material evolution of risks, key indicators, etc.) into their internal management reporting at an appropriate frequency. This frequency of the reporting is expected to be at least quarterly, but, depending on the institution, its business model and risk types; it should be at least monthly to ensure timely management action when needed.

Risks, as reflected in the ICAAP, should be integrated into all material business activities and decisions. This is achieved by, for example, using the ICAAP outcomes for setting and monitoring the capital allocation and for ensuring the ongoing effectiveness of the risk appetite framework, by using ICAAP-based risk-adjusted performance measures in the decision-making process, for determining variable remuneration, and when discussing business and risks at all levels of the institution, including, for example, in asset-liability committees, risk committees and management board meetings. ICAAP projections, when approved, should become a key performance benchmark and target against which each division's financial and other outcomes are measured.

Consistency between ICAAPs and recovery plans

A recovery plan is aimed at ensuring the survival of an institution in times of distress that pose a threat to its viability. Insufficient capitalisation is one of the key threats to viability. Hence, there is a natural

connection between the ICAAP, which is aimed at ensuring adequate capitalisation and supports viability from the capital perspective ex ante, and the recovery plan, which pursues the objective of restoring viability when an institution has entered into a distressed situation. Accordingly, institutions should ensure consistency between their ICAAP and their recovery planning.

Consistency and coherence across groups and financial conglomerates

The ICAAP shall ensure capital adequacy at relevant consolidation levels and for relevant entities within the group or financial conglomerate, as required by Article108 CRD IV. In order to be able to effectively assess and maintain capital adequacy across entities, the strategies and risk management processes and the decision-making and the methodologies and assumptions applied when quantifying capital needs have to be coherent and consistent across the relevant perimeter.

Principle 3: The ICAAP is aimed at maintaining the viability of the institution on an ongoing basis, covering short and medium-term assessments from different perspectives.

Institutions are expected to implement a proportionate ICAAP that incorporates two complementary perspectives focused on the viability of the institution. The **normative internal perspective** (based on regulatory/supervisory/accounting views) is aimed at the fulfilment of all capital-related legal requirements, supervisory demands and internal objectives on an ongoing basis. In addition, institutions are expected to take into account a sound **economic internal perspective** for their internal view. All risks and losses that may affect economic viability should be taken into account under this perspective, as there may be risks that are not apparent when focusing solely on the normative perspective (e.g. migration risk, credit spread risk in the banking book for positions not at fair value, value-based measurement of interest rate risk in the banking book (IRRBB) or hidden losses[5]).

Both perspectives, normative and economic, should be assessed over a short-term horizon, complemented for the normative perspective by baseline and adverse scenario projections for the medium term, as set out under Principle 2.

Objective: maintain the institution's viability

The objective of the ICAAP is to maintain the viability of an institution by ensuring that it has sufficient capital to bear its risks, absorb occurring losses and sustainably follow its intended business model, even under a prolonged period of adverse developments. Institutions should use the ICAAP framework to reassess their risk appetite and tolerance thresholds within their overall constraints, building on appropriate scenarios reflective of their risk profile and vulnerabilities. They are expected to determine capital levels they consider adequate. When determining the management buffers above the respective constraints (regulatory/supervisory and internal capital needs), they should take into account their risk appetite, their risk profile, the possibility of fluctuations in capital ratios and any other relevant factors, such as the expectations of markets, investors and counterparties, the reliance of the business model on the ability to pay out bonuses, dividends and payments on Additional Tier 1 (AT 1) instruments etc.

[5] For the purpose of this document, hidden losses are losses that are not reflected in accounting figures, e.g. when market values of assets are below book values.

Both the normative and the economic perspectives are based on internal assessments of capital needed to maintain viability, taking into account all relevant institution-specific effects, risks and losses.

Normative internal perspective

Institutions face a number of minimum regulatory and supervisory capital requirements and capital demands. In addition to, for example, leverage ratio, large exposure and MREL requirements, a key area to be considered are Pillar 1 and Pillar 2 capital requirements, the CRD IV buffer framework and Pillar 2 capital guidance. For non-stressed considerations, including baseline projections in capital plans, institutions should, in addition to the total SREP capital requirements (TSCR), account for their combined buffer requirements (CBR), i.e. the overall capital requirements (OCR), and the SREP Pillar 2 Guidance (P2G). Institutions should take the above into account and determine appropriate management buffers and implement capital plans that allow them to comply with OCR+P2G over the medium term under expected baseline conditions.

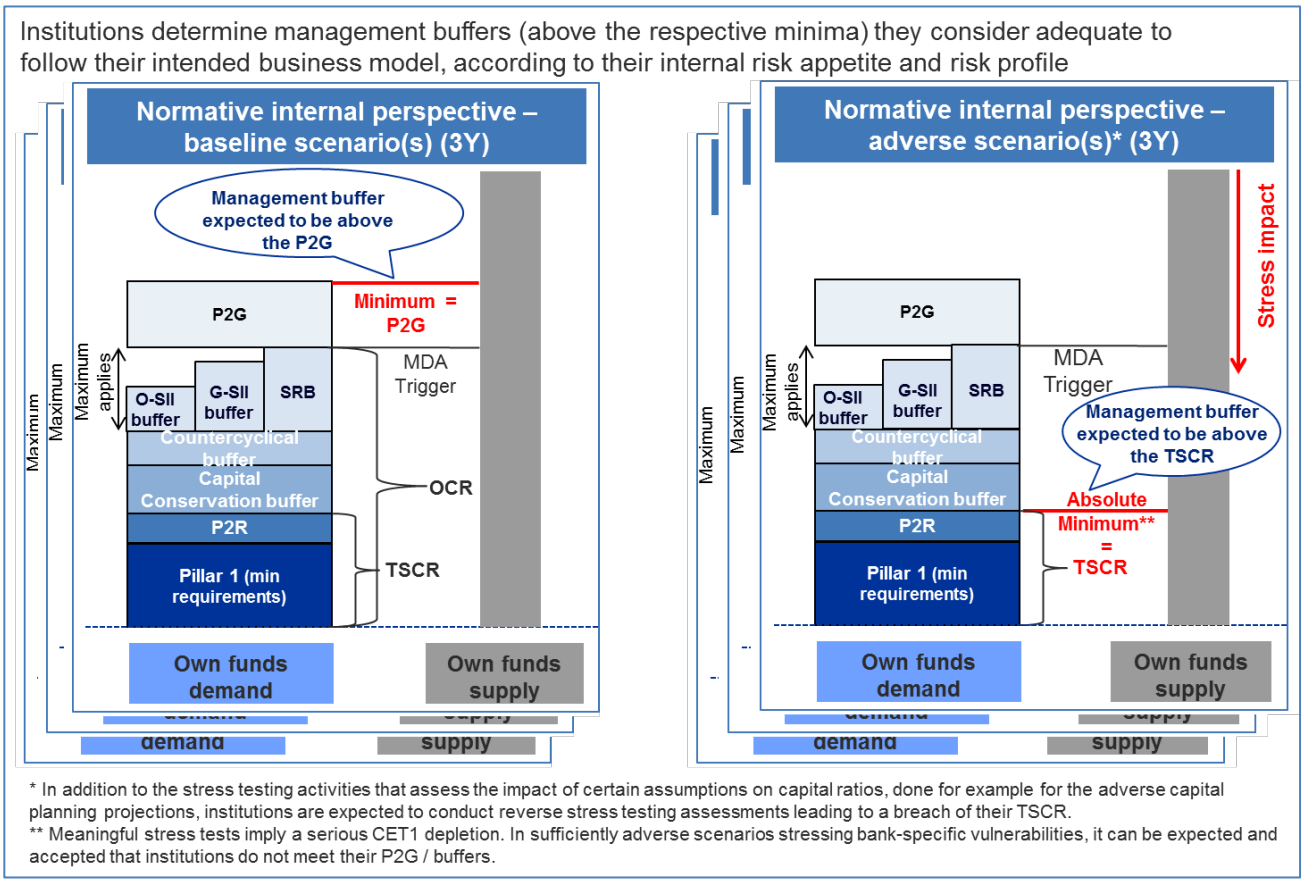

Figure 1[6]**:** overview of reference points for management buffers under the normative internal perspective.

For adverse conditions, institutions are expected to aim at maintaining their TSCR at all times, including under prolonged periods of stress that imply a serious CET 1 depletion, as described in Principle 7. This requires institutions to determine adequate management buffers on top of the TSCR that take into account the above and implement these management buffers in capital plans which would allow them to stay above their TSCR even under adverse conditions over the medium-term

[6] Please refer to the SSM SREP booklet for more explanations of the terminology used (see https://www.bankingsupervision.europa.eu/ecb/pub/pdf/srep_methodology_booklet_2016.en.pdf)

horizon. In sufficiently adverse scenarios stressing bank-specific vulnerabilities, it can be expected and accepted that institutions do not meet their P2G / buffers. In addition, institutions' ICAAPs are expected to account in their capital planning for a linear phase-in trajectory of the Capital Requirements Regulation (CRR) and for any other known changes in the legal/regulatory/accounting framework when determining adequate capital levels.

Economic internal perspective

Given the natural limitations of the normative perspective, institutions are expected to have a complementary internal perspective that takes into account losses from the full universe of risks that may have an impact on economic viability[7].

Under certain conditions, economic losses can affect the normative perspective over time[8]. Therefore, for all risks that may have an impact on economic viability, institutions should use their own processes and methodologies to identify, quantify and cover with internal capital unexpected losses that they might be subject to, as quantified by economic capital models or other internal methodologies, taking into account the principle of proportionality and data availability.[9] The institutions should manage those risks and also adequately integrate them into stress testing, the monitoring of capital adequacy and normative perspective capital plans.

Institutions are expected to use the economic perspective to gain a comprehensive and conservative view of their risks that may not be captured in the normative framework, or that may only materialize over time. This implies that, they should assess potential losses, including unexpected losses that occur very rarely, by implementing risk quantification methodologies and underlying assumptions that are tailored towards their specific risk profiles and provide conservative risk quantifications.

The capital adequacy assessment follows complementary approaches

In their assessments under the economic perspective, institutions should account for the full set of even very rare unexpected economic losses, e.g. by using high levels of confidence if economic capital models are being used or by using a range of plausible scenarios that adequately capture an institution's downside risks. This high level of conservatism underlying the assessments should capture relevant past stress events. Regarding future stress events, institutions should conduct internal stress tests that account also for losses that may occur in future years, applying documented, well-justified expert judgment. In those stress tests, institutions should also take into account the assessment of possible adverse future developments conducted under the normative perspective and they should use the outcomes to validate the economic perspective risk quantifications and adjust or

[7] Note: the concept of economic viability, including e.g. the net present value concept, is subject to institutions' own definition and criteria. Likewise, this guide does not stipulate the use of any specific methodology, such as economic capital models.

[8] While economic risks and losses immediately and to the full extend impact the capital adequacy under the economic perspective, they may materialise over several years in the normative perspective and, maybe also only partially, via future accounting losses, own fund reductions and prudential provisions. For example, the net present value effect of interest rate changes for banking book positions is immediately visible to the full extent under the economic perspective, whereas the P&L effect impacts the pillar 1 capital ratios under the normative perspective usually over several years.

[9] For risks that are difficult to quantify, e.g. because of missing data or the absence of established quantification methodologies, institutions are expected to develop adequate methodologies to quantify unexpected losses, including using expert judgment. Please refer also to Principle 7 in this regard.

complement the latter if they do not adequately capture the risks arising from those adverse future developments.

Conversely, the projections of the future capital situation under the normative perspective should also be informed by the economic perspective outcomes, i.e. institutions should assess under the normative perspective to what extent economic perspective risks and effects may have an impact on their future own funds and risk-weighted assets (RWAs). Hence, normative and economic perspectives should mutually inform each other.

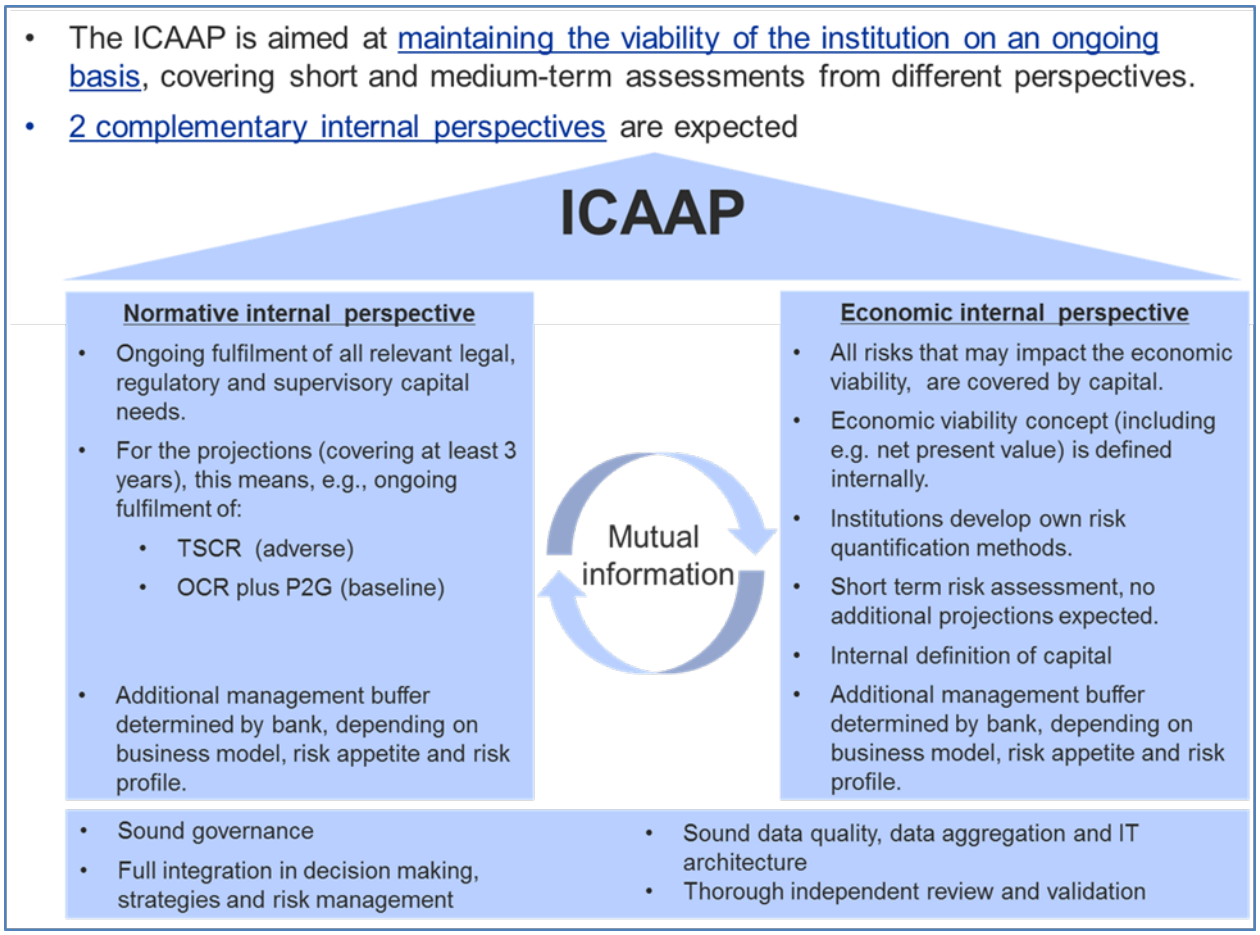

Figure 2: overview of ICAAP perspectives and key features

Medium-term assessments

When assessing medium-term capital adequacy under baseline and adverse scenarios under the normative perspective, institutions are expected to also appropriately respond in their projections to emerging requirements, e.g. IFRS 9, the Bank Recovery and Resolution Directive (BRRD), BCBS consultations, EBA draft regulatory and implementing technical standards (RTS/ITS). If they assume management actions in capital plans, they should also assess the feasibility and the expected impact of such actions under the respective scenarios, and they should be transparent about their quantitative impact on projected figures.

Principle 4: All material risks are identified and taken into account in the ICAAP.

Institutions are responsible for implementing a regular process for identifying all material risks they are or might be exposed to. Taking a comprehensive approach, including all relevant legal entities, business lines and exposures, they should identify at least annually risks that are material, based on a complete internal **risk inventory** and using their own internal concept and definition of materiality. In the case of conglomerates and for material participations (e.g. in insurance undertakings), institutions are also expected to take inherent risks, such as insurance risk, into account in their ICAAPs.

For all risks identified as material, institutions are expected either to allocate capital to cover the risks or to document the justification for not holding capital.

Risk identification process

Institutions should adopt a comprehensive risk identification approach taking both perspectives (normative and economic) into account. In addition to their current situation, they are also expected to consider any risks and concentrations within and between those risks that may arise from pursuing their strategies and from relevant changes in their operating environment. The institution should then apply its regular process for assessing the materiality of each of the risks in the risk inventory using the materiality definition it has adopted. Risk identification and materiality determination should follow a "gross approach", i.e. risks should be assessed without taking into account mitigating actions, such as management actions or (in the case of operational risks) insurance contracts.

The management body shall decide which risk types from the risk inventory are to be considered material, and for which material risks capital should be held.

Risk inventory

Each institution is responsible for defining and updating the list of risks it considers material (following the above approach) and for defining its own internal risk taxonomy.

Below is an example of a risk list[10] that is neither mandatory nor exhaustive. There may be risks in this list that are not material for some institutions, and this should be explained. At the same time, there will be usually risks not mentioned in the list that are material. It remains the institution's responsibility to determine all of its material risks and concentrations between and within those risks irrespective of whether they are listed here or not[11].

- Credit risk (including country risk, migration risk)
- Market risk (including credit spread risk, structural FX risk)
- Operational risk (including business disruption and systems failures, legal risk, model risk)
- Interest rate risk in the banking book (including option risk – e.g. prepayment options)

[10] Please note that the mapping between risk types and risk sub-categories presented in this guide are not to be considered mandatory. Each institution must decide whether and how it combines risk types and risk sub-categories.

[11] There are many other risks that may be material for an individual institution. For example, participation risk, sovereign risk, pension risk, funding cost risk, business and strategic risk.

Principle 5: Internal capital is of high quality and clearly defined.

While the normative perspective focuses on regulatory own funds, institutions are expected to define internal capital for the economic perspective (taking a prudent approach e.g. with regard to hidden losses and reserves) that is consistent with the risk quantifications. Under the SREP, ECB Banking Supervision pays particular attention to the quality of capital and has the expectation that internal capital will be of sound quality. As a matter of principle, it is expected that a large part of internal capital components will be expressed in terms of CET1 own funds.

Treatment of hidden losses and hidden reserves

While hidden losses should be fully taken into account when determining internal capital, institutions are encouraged not to include hidden reserves in their internal capital. If they should nonetheless decide to include hidden reserves, they should do this in a cautious manner and be fully transparent about this; i.e. they should, in addition to gross internal capital figures, at least produce and report net figures without including hidden reserves.

Principle 6: ICAAP assumptions and risk quantification methodologies are proportionate, consistent and thoroughly validated.

The institutions are responsible for implementing risk quantification methodologies that are adequate for their individual circumstances, i.e. these should be in line with their risk appetite, market expectations, business model, and risk profile. There is no general expectation that economic capital models will be implemented. In any event, institutions are expected to apply a very high level of conservatism under the economic perspective, and they should apply sufficiently severe conditions in terms of CET1 depletion in the adverse scenario projections under the normative perspective. The key parameters and assumptions (confidence levels, holding periods, or scenario generation assumptions, among others) have to be consistent throughout the group and between risk types. All risk quantification methodologies should be subject to independent internal validation.

Comprehensive and conservative risk quantification

The ICAAP shall ensure that all losses are accounted for, regardless of whether they are expected or unexpected losses. Institutions are expected to implement risk quantification methodologies that are tailored to their individual risk profiles. The overall level of conservatism of any ICAAP risk estimation methodologies used under the economic perspective should be very high and, overall, at least on par with the level underlying Pillar 1 internal models. Rather than one-by-one, the overall level of conservatism is determined by the combination of underlying assumptions and parameters.[12] In order to allow for a comparison between Pillar 1 and ICAAP risk quantifications and the main drivers for differences between them, institutions should be able to follow what is spelled out in the ECB

[12] For example, depending on the risk profile, internal risk estimates could be considered to be more conservative overall than Pillar 1 even if, for example, the confidence level is below 99.9%, subject to the overall combination of this confidence level with risk factors applied, distribution assumptions, holding periods, correlation assumptions and other parameters and assumptions.

documentation "*Technical implementation of the EBA Guidelines on ICAAP and ILAAP information collected for SREP purposes",* regardless of the Pillar 1 approach chosen [e.g. Standardised or IRB approach for credit risk].

Risks should not be exempted from the assessment because they are difficult to quantify. Rather, institutions should determine sufficiently conservative risk figures, taking all information into account and ensuring consistency of all methodologies for quantifying risks.

Choice of risk quantification methodologies

It is the responsibility of institutions themselves to implement adequate methodologies for quantifying their risks and for determining future projections. ECB Banking Supervision neither prescribes nor restricts the use of certain quantification methodologies per se. This means that there is no predetermination with regard to whether, for example, economic capital models should be used to quantify risks under the economic perspective or institutions should use (amended) Pillar 1 methodologies (e.g. to take into account concentration risks), stress test results or other methodologies such as multiple scenarios.

However, ECB Banking Supervision will assess whether all the methodologies used are consistent with each other, with the perspective considered and with the definition of capital. Furthermore, it will assess whether they capture the risks the institution is exposed to in an adequate and sufficiently conservative manner, taking into account the principle of proportionality. This means, for example, that larger institutions or more complex risks necessitate more sophisticated risk quantification methodologies to capture the risks in an adequate manner.

However, institutions should not implement complex risk quantification methodologies which they do not fully understand and which are consequently not used for their own internal risk management and decision-making. Institutions should be able to demonstrate the adequacy of the methodologies for their individual situation and risk profile. In the case of vendor models, this includes the expectation that such models should not be imported mechanistically, but rather they should be fully understood by the institution, well-suited for and tailored to its business context and risk profile.

Inter-risk diversification effects

Institutions should be aware that, in line with the EBA SREP guidelines,[13] the supervisor will not take into account inter-risk diversification in the SREP. Institutions are expected to take this into account and be cautious when applying inter-risk diversification in their ICAAPs. They should be fully transparent about this; i.e. they should, in addition to net figures, at least produce and report gross figures without inter-risk diversification effects, and ensure that risks are covered by capital even in times of stress when diversification effects may disappear or behave in non-linear ways (even reinforcing each other in an extreme scenario).[14] Institutions should also take this into account in their stress testing and capital planning.

[13] EBA Guidelines on common procedures and methodologies for the supervisory review and evaluation process (SREP) (EBA/GL/2014/13) of 19 December 2014.

[14] For example, adding the separately estimated risk components may not be conservative, as often thought, because non-linear interactions may lead to compounding effects (see "Findings on the interaction of market and credit risk", *BCBS Working Paper*, No 16, Basel Committee on Banking Supervision, May 2009).

Independent validation

The validation process for ICAAP risk quantification methodologies should respect the principles underlying the respective standards established for Pillar 1 internal models. The results of the validation process are expected to be reported to senior management and the management body, used for regularly reviewing and adjusting the quantification methodologies, and taken into account when assessing capital adequacy.

Principle 7: Regular stress testing is aimed at ensuring viability under adverse developments.

At least once a year, institutions shall perform a tailored and in-depth review of their vulnerabilities, capturing all material risks on an institution-wide basis that result from their business model and operating environment in the context of stressed macroeconomic and financial conditions. On the basis of this review; they shall define an adequate stress testing approach for both, normative and economic perspectives. This approach should also inform the adverse scenario(s)[15] used in the capital planning process (over at least three years) under the normative perspective. The application of severe, but plausible, macro assumptions plus the focus on the key vulnerabilities is expected to result in a material impact on the institution's internal and regulatory capital, for example with regard to the CET1 ratio. In addition, institutions are expected to conduct reverse stress testing in a proportionate manner.

In a proportionate way, institutions should monitor and identify new threats, vulnerabilities and changes in the environment to assess whether their stress testing scenarios remain appropriate and, if not, adapt them to the new circumstances. The scenarios should be reconfirmed and applied regularly (e.g. quarterly) to monitor potential effects on the relevant capital adequacy indicators over the course of the year.

Stress scenario definition

When defining their set of internal stress scenarios, institutions should use a broad set of information on historic and hypothetical stress events, including supervisory stress tests. However, although they should take supervisory stress tests into consideration, it is the institutions' own clear responsibility to define their scenarios in the manner that best addresses their individual situations and to translate those scenarios into respective risk, loss and capital figures.

Severity level of adverse scenario projections under the normative perspective

In the baseline assessment, institution shall assume "normal" time developments, i.e. developments that they expect under normal circumstances. Translated into statistical terminology, this can be interpreted as the assumption of expected values for revenues, costs, risk materializations, etc. Under the adverse scenarios, capital planning is expected to consider the sensitivity of the baseline case to a range of key drivers that have an impact on the financial projections. The sensitivity takes into account

[15] The number of scenarios that is adequate for an institution depends, amongst others, on its individual risk profile.

the impact of potential downside risks to the baseline projections, e.g. a prolonged low interest rate environment.

In their respective projections under the normative perspective, institutions are expected to assume exceptional, but plausible developments with an adequate degree of severity in terms of the impact on their regulatory capital ratios, in particular the CET1 ratio. The level of severity should be comparable to developments that are plausible, but are as adverse from the institution's perspective as any that could be observed during a crisis situation in the markets, factors or areas that are most relevant for the institution's capital adequacy.

Coherence versus targeting key vulnerabilities

In their stress testing, institutions should clearly target their key vulnerabilities. Although they are expected to define plausible scenarios, this should not deter them from focusing on key vulnerabilities while attempting to design a scenario with a logical story behind it.

In any case, ICAAP stress tests and ILAAP stress tests should inform each other; i.e. underlying assumptions, stress test results and projected management actions should be mutually taken into account.

Reverse stress testing

In addition to the stress testing activities that assess the impact of certain assumptions on capital ratios, done for example for the adverse capital planning projections, institutions are expected to conduct reverse stress testing assessments resulting in a breach of their TSCR/internal capital needs. Such reverse stress tests should be used to challenge the comprehensiveness and conservatism of the ICAAP framework assumptions, both under the normative and the economic framework. More details on these reverse stress tests that should be conducted at least once per year can be found in the respective EBA guidelines and BCBS guidance.

Not relevant for SREP 2017

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BANKING SUPERVISION

SSM Guide on ILAAP

In line with the Capital Requirements Directive (CRD IV)[1] and the European Banking Authority's (EBA's) guidelines on the Supervisory Review and Evaluation Process (SREP), the Internal Liquidity Adequacy Assessment Process (ILAAP) plays a key role in the Single Supervisory Mechanism (SSM) SREP methodology. It feeds into many SREP assessments of internal governance, the risk control assessments for risks to liquidity and funding and, last, but certainly not least, into the Pillar 2 liquidity determination process.

The ILAAP is the process a bank needs to have to ensure it can identify all relevant liquidity and funding risks, measure and monitor them and, when needed, take timely action to avoid liquidity shortages. The ILAAP should result in a Liquidity Adequacy Statement (LAS). Liquidity can be considered adequate if and only if the institution has a sound ILAAP process, including a robust liquidity stress testing framework which quantitatively demonstrates that the institution has sufficient liquidity to withstand severe stress today and to continue with its operations in the foreseeable future.

In the SREP, it is acknowledged that a good ILAAP reduces an institution's and its supervisor's uncertainty concerning the actual risks that the institution is or may be exposed to and gives the supervisor an increased level of trust in the institution's ability to meet its obligations. This requires the institution to ensure that all material risks are identified in a forward-looking manner, are effectively managed (with an adequate combination of quantification and controls) and are covered by a sufficient buffer of high quality liquid assets and stable sources of funding. Accordingly, the quality of your ILAAP will be reflected in the SREP outcomes in terms of supervisory measures taken, which also might result in additional liquidity requirements.

We would like to stress that the ILAAP itself is, above all, an internal process and it remains your responsibility to implement it in a proportionate manner, i.e. the ILAAP has to be commensurate with your individual business model, size, complexity, riskiness, market expectations, etc. Our assessment will take the principle of proportionality into account.

It is our expectation that the level of conservatism and comprehensiveness and your governance arrangements will usually go far beyond and be more conservative than the baseline described for a selected number of key aspects in this guide. Based on the experience gained last year, we conclude that there is a need for improvement of the ILAAP across the sector, and a reduction in the scope of the ILAAP based on the focus points provided in this guide should not be considered. Please find below our principles with regard to seven ILAAP areas that we will put specific focus on within our harmonised assessment of ILAAPs as part of the SREP in 2017 and onwards. Please note that in addition to these selected principles, all institutions are expected to take into account ILAAP-relevant

[1] Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC (OJ L 176, 27.6.2013, p. 338)

publications from the EBA[2] and from international fora like the Basel Committee on Banking Supervision (BCBS) and the Financial Stability Board (FSB).

Principle 1: The management body is responsible for the sound governance of the ILAAP.

In view of the major role of the ILAAP for the institution, all of its key elements should be approved by the management body. The management body, senior management and relevant committees should discuss and challenge the ILAAP in an effective way.

Each year, the management body is expected to produce a clear and concise statement expressing its views on the liquidity adequacy[3] of the institution (LAS), that is signed off by the management body and supported by ILAAP outcomes and any other relevant information.

The management body shall have overall responsibility for the implementation of the ILAAP and shall approve an ILAAP governance framework with a clear and transparent assignment of responsibilities, adhering to the segregation of functions. The ILAAP shall be subject to regular internal review and validation.

Key elements of ILAAP design

Key elements[4] of the ILAAP design include: the governance structure; documentation requirements; the methodology used to assess liquidity adequacy (including a well-articulated definition of liquidity adequacy), the scope with regard to risks and perimeter captured; the time horizon; key risk measurement assumptions and parameters for risk indicators, stress testing and supporting IT infrastructure.

Management body

The management body approval should be based on a clear internal view on the quality of the ILAAP, including identification of potential weaknesses through an ongoing (self-)assessment of all key elements of the ILAAP, internal validation of models and assumptions used for the ILAAP and an internal view on the consistency of the ILAAP with other internal risk management elements, such as the Risk Appetite Statement, the medium-term planning and the strategy.

The management body comprises a supervisory function and a management function which may be dedicated to a single body or two separate bodies. Which key elements of the ILAAP have to be approved by which function is subject to national regulations, in line with Union legislation and EBA guidelines.[5] Irrespective of the actual allocation of responsibilities, it is crucial that key elements of the ILAAP are approved at management body level, rather than being delegated to lower levels within the institution.

[2] For example, EBA Guidelines on common procedures and methodologies for the supervisory review and evaluation process (SREP) (EBA/GL/2014/13), EBA Guidelines on ICAAP and ILAAP information collected for SREP purposes (EBA/GL/2016/10).

[3] The LAS covers both the liquidity and the funding dimensions.

[4] See Chapters 5, 7 and 8 of the EBA Guidelines on ICAAP and ILAAP information collected for SREP purposes for the items that are considered key elements at a minimum for ILAAP.

[5] See recital 56 and Article 3(1)(7) to (9) CRD IV and paragraphs 31 and 32 of the EBA Guidelines on Internal Governance (GL 44).

The institution should on at least an annual basis self-assess its ILAAP against the relevant regulations, EBA guidelines, and BCBS best practices and expectations. Such a self-assessment should be an essential part of the internal quality assurance process for ILAAP that is used to inform the management body when signing the LAS. The self-assessment is free form, but should be sufficiently granular to demonstrate where the quality and robustness of the ILAAP stands versus regulatory requirements, expectations and industry best practices.

Internal review and validation

The ILAAP, both qualitative and quantitative aspects including the stress testing framework, shall be subject to regular internal reviews (including by the internal audit function) and validation processes, requiring sufficient staffing and robust IT resources and systems. Institutions should be able to produce a data lineage and have identified and documented all manual processes. The roles of the first, second and third lines of defence should be clearly defined, including how and when audits will be performed on the ILAAP. A defined process shall ensure proactive adjustment of the ILAAP to any changes that occur, such as entering into new markets, providing new services, offering new products or changes in the structure of the group or financial conglomerate.

Liquidity Adequacy Statement (LAS)

In the LAS, the management body expresses its view on the liquidity adequacy and explains its main supporting arguments, backed by information it considers relevant, including ILAAP outcomes. The LAS should demonstrate that the management body has a good understanding of the liquidity adequacy of the entity, its main drivers and vulnerabilities, the main ILAAP inputs and outputs, the parameters and processes underlying the ILAAP, and the coherence of the ILAAP with its strategic plans.

The legal authority to sign the LAS on behalf of the management body is governed by national regulations. More details on the expected format and content of the LAS can be found in the ECB documentation "*Technical implementation of the EBA Guidelines on ICAAP and ILAAP information collected for SREP purposes".*

Principle 2: The ILAAP is an integral part of the management framework of an institution.

Pursuant to Article 86 CRD IV, institutions are expected to have robust strategies, policies, processes and systems for the identification, measurement, management and monitoring of liquidity risk over an appropriate set of time horizons, including intraday, so as to ensure that institutions maintain adequate levels of liquidity buffers.

All the quantitative parts have to be fully interlinked with institutions' strategies, business decision-making and risk management processes (internal reporting, limit system, risk appetite framework, etc.). The strategies and processes have to be consistent and coherent throughout the group or financial conglomerate.

All the quantitative parts of the ILAAP have to be fully interlinked with its qualitative parts. Accordingly, the ILAAP supports strategic decision-making and, at the same time, it is aimed operationally at ensuring that the institution maintains an adequate level of liquidity buffers on an ongoing basis. The ILAAP, in terms of both quantitative and qualitative aspects, has to be consistent and coherent throughout the group or financial conglomerate.

The ILAAP as an integral part of an institution's risk management and decision-making

The ILAAP should form an integral part of an institution's strategies, internal arrangements and processes. The risk identification and quantification, the actual risk profile, the business strategy, the risk strategy, the risk appetite framework and the internal processes shall be fully consistent. In order to assess and maintain adequate liquidity to cover the risk, the internal processes and arrangements shall ensure that risks do not exceed internal limits set, based on the current and expected future available liquidity. This requires the implementation of an effective limit system, including effective escalation procedures, that is consistent with the ILAAP quantifications. The ILAAP is an ongoing process. Institutions should integrate ILAAP-related outcomes (such as material evolution of risks, key indicators, etc.) into their internal reporting at an appropriate frequency. This frequency shouldbe at least quarterly, but, depending on the institution, its business model and risk types, it should be monthly to ensure timely management action when needed. In the event of market disruptions, more frequent reporting should be undertaken.

The risk perspective, as measured through the ILAAP processes, should be integrated in all business activities and decisions. This is reflected, e.g. by using the ILAAP outcomes for setting and monitoring the buffer allocation, adjusting the risk appetite framework and using ILAAP-based risk-adjusted performance measures in the decision-making process. ILAAP outcomes should be used when discussing business and risks at all levels of the institution, including in asset-liability committees, risk committees and management board meetings, and when taking (major) strategic business decisions in the first line.

Consistency with recovery plans

A recovery plan is aimed at ensuring the survival of an institution in times of distress that pose a concrete threat to its viability. An insufficient level of liquidity is one of the key threats to viability. Hence, there is a natural connection between the ILAAP which is aimed at the ensuring viability from the liquidity perspective in "normal" times and providing insight into availability of liquidity under stress scenarios and the recovery plan, which follows the same objective under actual distressed circumstances. Accordingly, institutions should ensure that ILAAPs and recovery planning are consistent.

Consistency and coherence across groups and financial conglomerates

The ILAAP shall ensure liquidity adequacy at different levels of consolidation and for different entities within the group or financial conglomerate, as required by Article 109 of CRD IV, considering the level of application of SREP as specified in Article 110 of CRD IV and recognising waivers applied pursuant to Articles 8 and 10 of the Capital Requirement Regulation (CRR) and Article 21 of CRD IV. In order to be able to effectively assess and maintain liquidity adequacy across entities, the strategies and risk management processes, the decision-making, and the methodologies and assumptions applied when quantifying liquidity needs have to be coherent and consistent across the relevant perimeter. It is not sufficient to simply add-up ILAAP figures that were determined in silos. In order to derive meaningful indications for managing risks, the institution needs to be able to interpret the ILAAP outcomes, draw the right conclusions and act coherently across the whole group or conglomerate, taking into account limitations to transferability of liquidity across legal entities and jurisdictions.

Principle 3: The ILAAP is aimed at maintaining the viability of the institution, by ensuring an adequate supply of liquidity and stable funding on the short and medium term.

Under the SSM, institutions are expected to implement a proportionate ILAAP approach aimed at the survival of the institution and the ongoing fulfilment of all liquidity-related legal requirements and supervisory demands and internal objectives during the normal times. In addition to the requirements, institutions should take into account a sound economic perspective as a basis for their internal view. All risks that may affect the liquidity and funding position should be taken into account, including, in particular, those that may impede the survival of the institution at some stage, but are overlooked when only focusing on the legal perspectives.[6]

Both perspectives, legal and economic, are expected to be assessed from a short-term view and complemented by baseline and adverse scenario projections for the medium term.

Objective: meeting its obligations

The objective of the ILAAP is to ensure the survival of the institution by ensuring that it has sufficient liquidity and stable funding to bear its risks and cover its net liquidity outflows. What liquidity buffer levels are needed for an individual institution to meet its obligations depends on the institution's business model, its ownership structure, market and investor expectations (depending on its liability structure), its business strategy, current capital position, etc.

Internal perspective

In addition to regulatory and supervisory liquidity demands, institutions have to ensure liquidity adequacy from an internal perspective that takes into account a sound economic perspective. This means that institutions have to think beyond Pillar 1 risks and the respective Pillar 1 risk quantification methodologies described in the LCR Delegated Act[7] and they have to think beyond regulatory rules for determining their own liquidity buffers and stable sources of funding. Rather, they should assess in a comprehensive manner all risks and liquidity needs (potential outflows) that are relevant for continuing their operations (the business model remains viable).

Combinations of perspectives

The ILAAP can be split into a starting point, i.e. an assessment as of today of the risk and liquidity situation over the short term perspective of usually one year, and a complementing medium-term perspective over at least three years. Short- and medium-term assessments should form a continuum, i.e. the medium-term assessment (often referred to as "funding planning") should build on the short-term assessment, which it complements and extends via projections that shift the short-term perspective window into the future. In addition to these two different time perspectives, the institution has to assess two other dimensions: the diverse regulatory/supervisory liquidity requirements and the internal/economic perspective. Thus, overall, there are four distinct perspectives that each institution's ILAAP has to account for.

[6] E.g. mismatches in cash in and outflows within the 30 day period.

[7] Commission Delegated Regulation (EU) 2015/61 of 10 October 2014 to supplement Regulation (EU) No 575/2013 of the European Parliament and the Council with regard to liquidity coverage requirement for Credit Institutions (OJ L 11, 17.1.2015, p. 1)

Liquidity Contingency Plan

The ILAAP should contain detailed information on liquidity contingency measures (in the form of a Liquidity Contingency Plan) that can be taken, including an assessment of the potential contingent liquidity that can be generated during stress, the time it takes to execute, potential negative effects (profit and loss account, reputation, business model viability, etc.) and the likelihood of completion of the measures under stressed conditions. Such liquidity contingency measures should be consistent with the risks identified and quantified in the ILAAP.

Principle 4: All material risks are identified and taken into account in the ILAAP.

Institutions are responsible for implementing a regular process for identifying all material risks/risk drivers[8] they are or might be exposed to. Taking a comprehensive approach, including all relevant legal entities, business lines and exposures, they should identify at least annually risks that are material, based on a complete risk inventory and using their own internal definition of materiality. In the case of conglomerates and for material participations (e.g. in insurance undertakings), institutions are also expected to take inherent risks, such as intra-group risk, into account in their ILAAPs. For all risks defined as material, institutions should either cover the risks with sufficient liquidity or document other actions taken to mitigate or control such risks.

Risk identification process

Institutions should implement a process for regularly identifying the risks/risk drivers they are or might be exposed to. They should regularly (at least annually) produce a full risk inventory, comprising all relevant risks, i.e. all risks they are exposed to or might be exposed to in the future, taking into account their current situation, but also any risks that may arise from pursuing their strategies and from changes in their operating environment. Institutions should take a holistic approach that covers all relevant on-balance-sheet and off-balance-sheet positions, entities, business lines and categories of risk, in accordance with the perspective (legal or economic) considered.

The institution is then expected to apply its regular process for assessing the materiality of each of the risks/risk drivers in the risk inventory by applying the materiality definition it has implemented. The management board shall decide which risk types from the risk inventory are to be considered material and for which material risks liquidity should be held. If any material risks are not to be covered with liquidity, the institution should document its actions taken to mitigate or control such risks. Based on the identified material risk drivers, institutions should define appropriate indicators to monitor their level and trends.

Sources of risk

Each institution is responsible for defining and updating the list of risks/risk drivers it considers material (following the above approach) and for defining its own internal risk taxonomy. However, experience shows that some risks are not taken into account in an adequate manner by some banks.

Such sources of risk can stem from increased outflows, reduced inflows or reduced liquidity value of liquid assets. Both on-balance-sheet and off-balance-sheet items should be considered in these

[8] See the EBA Guidelines on SREP for an overview of the risk drivers that should be considered.

regards, including the potential impact of collateral calls and margin calls due to market movements or a reduction in own creditworthiness (including voluntary buy-back of own debt to ensure market access in the future). If collateral swaps are used to increase the stock of liquid assets, potential risk stemming from these transactions should be clearly identified and included in the risk indicators. In the case of cross border activities, the ILAAP should include an assessment of impediments to the transfer of liquidity between legal entities, countries and currencies and quantify the impact of such impediments on the availability of liquidity throughout the group.

The ILAAP should ensure a sound process for determining and monitoring what currencies are considered material for short-term liquidity risk and/or funding risk. Institutions should clearly identify any material risks, including those stemming from cross-border activities, resulting in liquidity or funding risk being (partly) taken in a currency other than the currency of the corresponding buffer of liquid assets. Such risks should be quantified in the ILAAP both under normal conditions (balance sheet positions and currency differences) and under stressed conditions (liquidity value of liquid assets in foreign currency versus stressed net outflows in foreign currency) for each currency that is considered material.

Banks should have a policy in place regarding the use of public funding sources. Such policies should differentiate between use of such sources during normal times and during times of stress and be explicitly considered in the risk appetite (timing and amount) and liquidity adequacy statement. The actual and potential future use of such sources should be monitored. Stress testing should be used to quantify both the timing and amount of potential future use of such sources. This monitoring should take place in all material currencies.

It is expected that any liquidity risk not captured by the LCR Delegated Act should be reflected in determining the internal target for the liquidity buffer. This holds true not only for risks within 30 days, but also beyond 30 days and up to one year. For the latter, risks should be quantified using metrics such as survival period,[9] for which an internal risk appetite should be determined.

Principle 5: The internal liquidity buffer is of sufficiently high quality, is well diversified and its components are clearly defined; the sources of funding are stable to ensure business operations can also continue in the longer term.

Institutions should define internal liquidity buffers and stable sources of funding that are consistent with the ILAAP perspective on liquidity needs (economic/business as usual, regulatory and stress perspective), i.e. risk quantifications and internal liquidity buffer/stable sources of funding definitions have to be consistent. In the SREP, ECB Banking Supervision pays particular attention to the quality of the liquidity buffers and diversification of funding sources.

Liquidity buffers

In terms of risks to liquidity, institutions should define what assets and future inflows can be considered to be available liquidity for the purpose of assessing their liquidity adequacy. Such an

[9] See the Committee of European Banking Supervisors (CEBS) Guidelines on Liquidity Buffers & Survival Periods, 2009.

internal definition should be based on the likelihood of these liquidity sources being used to obtain liquidity during stressed conditions. An explicit internal view should be formed on the desired composition of the buffer of liquid assets used to cover liquidity risks. In particular, institutions should differentiate between assets that are highly likely to remain liquid during times of stress and assets that can only be used to obtain liquidity from central banks. Internal limits should be set for both components, with a clear link between the target size of the buffer of liquid assets and the liquidity risks that could materialise across the various time frames (which should at least cover the time period up to one year).

Stable sources of funding

In terms of risks to funding sustainability, institutions should define which funding sources can be defined as stable funding sources for the purposes of assessing their funding sustainability. Related to this, an explicit internal view should be formed on the stickiness of deposits and (behavioural) cash flow profile. Institutions should assess the stability of their funding profile based on the diversity (or concentration) of funding providers, markets and products and assess their market access in terms of volume and pricing, taking into account current asset encumbrance and expected changes therein when executing the funding plan. Institutions should quantify their long-term maturity mismatch profile for the period after one year and determine a risk appetite and associated gap or balance sheet limits based on their business model and size and the complexity of their core activities.

Principle 6: ILAAP assumptions and risk quantification methodologies are proportionate, consistent and thoroughly validated.

Institutions are responsible for implementing risk quantification methodologies that are adequate for their individual circumstances, i.e. these should be in line with their risk appetite, market expectations, business model, and risk profile. When using models for quantifying risks, the key parameters and assumptions (confidence levels, holding periods, etc.) have to be consistent throughout the group and between risk types. All risk quantification methodologies should be developed and validated by independent functions.

Comprehensive and conservative risk quantification

The ILAAP shall ensure that all risks are taken into account. Institutions are expected to implement risk quantification methodologies that are tailored to their individual risk profiles. Risks that are not easy to quantify should not be exempted from the assessment. Rather, institutions shall determine sufficiently conservative risk figures, taking all information into account. For risks where quantification is subject to a wide range of potential outcomes, a more qualitative approach could be taken with respect to limits or actions, as long as some figures on potential impact are provided.

Choice of ILAAP methodologies

It is the responsibility of institutions to implement adequate methodologies for quantifying their risks and for determining future projections. ECB Banking Supervision neither prescribes nor restricts the use of different methodologies per se. This means that there is no predetermination with regard to whether, for example, economic liquidity models should be used to quantify risks in an economic

perspective or whether institutions should use liquidity coverage ratio (LCR) proxy methodologies, stress test results or other methodologies.

However, ECB Banking Supervision will assess whether all the methodologies used are consistent with each other, with the perspective considered and with the definition of the liquidity buffer. Furthermore, it will assess whether they capture the risks the institution is exposed to in an adequate and sufficiently conservative manner, taking into account the principle of proportionality. This means, for example, that larger institutions or more complex risks necessitate more sophisticated risk quantification methodologies to capture the risks in an adequate manner. However, institutions should not implement complex risk quantification methodologies which they do not fully understand and which are consequently not used for their own internal risk management and decision-making. Likewise, institutions may in such a case not be able to demonstrate the adequacy of the methodologies for their individual situation and risk profile.

Independent validation

All risk quantification methodologies should be developed by the risk control function, independently from the business areas that create the risk exposures. They should also be subject to a regular (at least annual) and thorough independent validation within the risk control function, but by persons that are independent from those who developed the methodologies. The results of the validation process are expected to be reported to senior management and the management body, used for regularly reviewing and adjusting the quantification methodologies and taken into account when assessing liquidity adequacy.

Principle 7: Regular stress testing is aimed at ensuring that sufficient liquidity is available to withstand periods of severe stress.

Institutions shall perform a regular tailored and in-depth review of their vulnerabilities, capturing all material risks/risk drivers on an institution-wide basis that result from their business model and operating environment in the context of stressed macroeconomic and financial conditions. On the basis of this review; they shall define a set of stress testing scenarios covering risks to liquidity and funding in addition to using a baseline scenario in their ILAAPs. The application of severe, but plausible, macro assumptions in combination with the focus on key vulnerabilities is expected to result in a material impact on the institution's internal and regulatory liquidity buffers. In addition, institutions are expected to conduct reverse stress testing in a proportionate manner.

Institutions should continuously monitor and identify new threats, vulnerabilities and changes in their environment to assess whether their stress testing scenarios remain appropriate and, if not, adapt them to the new circumstances. In addition, the scenarios should be reviewed and applied regularly (e.g. quarterly) to monitor potential effects on the relevant liquidity adequacy indicators over the course of the year.

Stress scenario definition

When defining their internal scenarios, institutions should use a broad set of information on historic and hypothetical stress events. It is the responsibility of institutions themselves to define their

scenarios in a manner that best addresses their individual situation and to translate those scenarios into respective risk metrics, such as liquidity in and outflows and the liquidity value of the liquid assets during times of stress. Both baseline scenarios for forecasting the key regulatory and internal liquidity and funding metrics and severe stress scenarios should be used.

Severity level of adverse scenario projections

These scenarios, which should be reviewed in-depth at least once a year, include both institution-specific (idiosyncratic) and market-wide stress assumptions. The outcomes should be used to determine liquidity contingency measures. Such stress scenarios should at least include both the ongoing business perspective (normal operations continue, limited possibility of inflows from the credit book, reliance on market liquid assets mainly to generate liquidity, buy-back of own debt to ensure future market access, etc.) and scenarios in which a severe disruption of the business model cannot be avoided (stop on asset generation, using any eligible collateral to obtain liquidity, including central bank funding, not using call options on own debt or equity instruments, etc.).

Coherence versus targeting key vulnerabilities

In their stress testing, institutions should target their key vulnerabilities by using plausible, but severe scenarios. While historical experience can provide useful information, institutions should not limit their assessment of what scenarios are plausible by historical events, but extend the stress tests to scenarios that go further in terms of severity or scope of assets and liabilities involved.

ILAAP stress tests and ICAAP stress tests should be consistent with each other where possible. Underlying assumptions should be considered in conjunction with each other, and institutions should make the links between both stress tests visible; for example, the impact of the sale of liquid assets on the profit and loss account or the impact of capital reduction under stress on the stability of liabilities. The treatment of stress test results in terms of reporting and defining management actions should be consistent.