The Advisory Council on the Economic Value-based Solvency Framework

Final Report

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Acronyms

EEV	European Embedded Value
ERM	Enterprise Risk Management
ESR	Economic Solvency Ratio
EV	Embedded Value
FT	Field Test
IAIG	Internationally Active Insurance Group
IAIS	International Association of Insurance Supervisors
ICP	Insurance Core Principles
ICS	Insurance Capital Standard
IFRS	International Financial Reporting Standard
MAV	Market Adjusted Valuation
MCEV	Market Consistent Embedded Value
MCR	Minimum Capital Requirement
MOCE	Margin Over Current Estimate
ORSA	Own Risk and Solvency Assessment
PCR	Prescribed Capital Requirement
PRA	Prudential Regulation Authority
SFCR	Solvency and Financial Condition Report
SMR	Solvency Margin Ratio
UFR	Ultimate Forward Rate
VaR	Value at Risk

1. Introduction

The ultimate objective of the policies of the Financial Services Agency of Japan (JFSA) for the insurance sector is to "protect policyholders by ensuring sound and appropriate management of those who carry out insurance business and fairness of insurance solicitation, and thereby to contribute to the stability of the lives of the citizens and to the sound development of the national economy" (Article 1, Insurance Business Act). Based on the Act, various rules and regulations are in place to secure insurers' financial soundness, such as rules for standard policy reserves and solvency margin ratio (SMR) regulation.

The SMR is defined as an indicator of an insurer's solvency, in excess of the policy reserves that it holds in order to fulfill the obligations under insurance contracts. It was introduced through the revision of the Insurance Business Act in 1996, and has also been used as a measure for the Early Corrective Action framework (a framework where the JFSA makes prompt supervisory intervention based on the level of SMR and urges insurers to take recovery actions) since April 1999.

However, challenges and limitations related to the SMR were pointed out by the Study Team on Solvency Margin Standard,[1] which was convened between November 2006 and March 2007. Its final report recommended that a study be conducted on the economic value-based solvency regulation, after revisions[2] to enhance the SMR's reliability that can be done in a short-term are made.

Following the recommendations of the report, the JFSA has conducted several field tests (FTs) on the economic value-based valuation and supervisory approach since 2010. Through these exercises, the JFSA has assessed insurers' preparedness, practical challenges and quantitative impacts of the economic value-based solvency regime. In the meantime, insurers have made progress in integrating the economic value-based approach into their risk management framework. There were notable developments on the international front as well, including the development of the Insurance Capital Standard (ICS) by the International Association of Insurance Supervisors (IAIS).

Japan's domestic insurance market may become smaller in the future due to its declining population. In addition, low interest rates are posing another challenge for insurers in Japan. In facing these challenges, some insurance groups are trying to globalize their business. Customers' needs for insurance are also changing due to various reasons,

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[1] "On the Calculation Standard of the Solvency Margin Ratio", Available in Japanese (https://www.fsa.go.jp/singi/solvency/20070403.pdf) p.19

[2] The revision was finalized in April 2010 and was put into force at the end of March 2012. The revised elements include finer risk measurement, increased confidence level, and tightening of the criteria for capital resources.

including the growing burden of healthcare and nursing care, and the advance of digitalization. Risks surrounding insurers are also transforming rapidly, due to the prolonged ultra-low interest rate environment, the volatility in the domestic and overseas economies and markets, the increasing severity of natural disasters around the world, and the emergence of cyber risk. Given all these factors, the Japanese insurance industry is standing at an important crossroads. Under these circumstances, it is essential for insurers to further enhance their governance while continuing to meet policyholders' expectations. It is also becoming even more important to build a regulatory and supervisory framework that is suitable for such an environment.

Recognizing such an environment surrounding us, the Advisory Council on the Economic Value-based Solvency Framework discussed the introduction of the economic value-based solvency regulation in Japan, as well as the modality of an upgraded supervisory framework under the new regulatory framework. Although this report refers to the specifics of the ICS, the focus here is the domestic regulatory and supervisory framework, but not the design of the ICS itself.

2. Economic value-based solvency assessment

1) Progress in the economic value-based approach in risk management

At the onset of an insurance contract, insurers guarantee future cash flow (payment of insurance benefits) associated with the occurrence of insured events for policyholders, and secure funds for the payment afterwards by earning premiums and investment incomes. Therefore, ex-post changes in assumptions, such as interest rates and the frequency of accidents, could cause insurance companies' solvency to deteriorate.[3] Indeed, Japanese life insurers faced a crisis triggered by the "negative spread" problem around the year 2000, which resulted in losses for a number of policyholders and wavered confidence throughout the insurance industry.

The economic-value based approach is effective in risk management for an insurance company that takes into account the characteristics of the insurance business and risks that may arise in the future.[4] For instance, it enables insurers to assess their solvency

[3] The so-called negative spread refers to the state where the investment income (in the fundamental profit in the Japanese accounting practice) is smaller than the original assumption.

[4] In this report, the term "economic value-based approach" is used to refer to the approach to evaluation consistent with market value or the approach to evaluation of assets and liabilities based on the present value of future cash flow calculated through a method using market-consistent principles, techniques and parameters.

position in a forward-looking manner by evaluating net assets using current assumptions and comparing it with the economic value of net assets under various stress scenarios (i.e. changes in assumptions). Moreover, other areas of insurers' control activities could also be enhanced by adopting the economic value-based approach and making them consistent with their risk control measures: examples are asset and liability management (ALM) that appropriately reflects the durations and cash flow structures of both sides of the balance sheet, and product design and profit management activities that take into account the balance between risk and return.[5]

The economic value-based approach is important in enhancing enterprise risk management (ERM), which needs to take into account the balance between risk, return and capital. Japanese insurers have made efforts to improve their ERM framework. Some of them already utilize and voluntarily disclose economic value-based metrics,[6] such as an Economic Solvency Ratio (ESR) based on their internal models and/or embedded values that are consistent with the economic-value based approach.[7] The JFSA has also been facilitating the improvement of insurers' EMR framework, including through the revision of the Comprehensive Guidelines for Supervision of Insurance Companies in February 2014 by expanding references to ERM, taking into account the discussion at the IAIS.

2) International developments related to regulatory and accounting standards

There has been a global trend towards solvency regulation that is based on the economic value-based approach. In the European Union (EU), the Solvency II project, which started in the 2000s, aimed at upgrading the relatively simple Solvency I. The finalized Solvency II framework has been applied to insurers within the EU area since 2016. There are several other jurisdictions that have already implemented or are in the process of introducing economic value-based solvency regulation.[8]

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[5] While the purpose of the economic value-based approach is not necessarily to eliminate the risk of "negative spread," it enables early detection and measurement of risks and thus controlling them through the economic value-based ERM. Unfortunately, the economic value-based approach had not taken hold among both insurers and the JFSA at the time of Japanese life insurance crisis. This is presumed to have led to business management problems at many companies at that time.

[6] Page 38 of the material for the first meeting of the Council (available in Japanese)

[7] Specifically, the European embedded value (EEV) and the market consistent embedded value (MCEV) are used.

[8] In the United States, economic value is partially reflected in the Risk-Based Capital (RBC) regulation through the Principle-Based Reserving (PBR), a new framework for the evaluation of policy reserves. On the other hand, in the context of ICS, some countries have expressed an intention to investigate methodologies different from the MAV approach under ICS Version 2.0, separately from the development of the ICS. The

There has been no international capital standard with respect to solvency regulations for insurers so far, unlike in the banking sector. The IAIS has been developing the ICS for internationally active insurance groups (IAIGs) in the 2010s. ICS Version 2.0 for the monitoring period, which was agreed on by the IAIS in November 2019, is scheduled to undergo a five-year monitoring period, and a finalized ICS should be applicable as a prescribed capital standard for IAIGs within the legal framework of each jurisdiction. ICS Version 2.0 is based on the market adjusted valuation (MAV) approach, which is aligned with market-consistent valuation.

With regard to accounting standards, the International Financial Reporting Standards (IFRS) 17, which is in the process of finalization, has adopted an approach consistent with the economic value-based approach. For instance, insurance contracts are valued under IFRS 17 based on a risk-adjusted present value of the future cash flows that incorporates all the available information, and variables that are consistent with observable market prices.

3. Conceptual building blocks of the economic value-based framework in Japan

1) Significance and objectives of the economic value-based regulation

The current solvency margin ratio (SMR) is premised on accounting balance sheets (based on the Japanese Generally Accepted Accounting Principles, or J-GAAP), thus liabilities are basically valued using locked-in assumptions (i.e. assumptions are fixed at the time of the inception of an insurance contract). The SMR relies mostly on a relatively simple factor-based risk measurement, where the required capital is calculated by multiplying the exposure value by predetermined factors.

Therefore, the calculation of SMR is relatively easy and has limited room for insurers to exercise discretion. On the other hand, it may neither sufficiently reflect insurers' medium- to long-term risk structure nor lead to further sophistication or enhancement of their risk management, as was pointed out by a report by the Study Team on Solvency Margin Standard (April 2007).

The area of interest rates is one of the areas where there is a stark contrast between treatment under the current SMR and that under the ESR. Under the SMR, the valuation of liabilities is in principle not affected by a fall of interest rates. On the other hand, the

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IAIS is in the process of developing a framework to assess equivalence between the ICS and the other approaches.

valuation of fixed-income assets improves due to lower interest rates,[9] which causes the SMR to rise. In contrast, in the case of ESR, when the duration on the liability side is longer than on the asset side—as is the case with many Japanese life insurers—the economic value of net assets decreases and leads to a decline in ESR, as the rise in the economic value of insurance liabilities is larger than that on the asset side. As shown in this example, ESR can be seen as a superior indicator compared with the current SMR, in that it captures insurers' medium- to long-term financial soundness in a forward-looking manner, for instance by identifying risks arising from an interest rate decline in a timely manner.

While the SMR has been updated to improve its reliability since it was introduced 24 years ago, it cannot be denied that it has certain limitations in addressing the abovementioned challenges. Moreover, we recognize that more and more insurers have incorporated the economic value-based approach into their risk management framework. Based on these observations, it is necessary for the Japanese insurance sector to move on to the ESR-based solvency regulation as early as possible, in order to establish a regulatory and competitive environment that enable insurers to meet various needs in a sustainable manner, and to ensure policyholder protection from the perspective of medium- to long-term financial soundness.[10] The primary benefits and objectives of the economic value-based regulation in this context can be summarized from the following three standpoints:

(i) Policyholder protection

The primary objective of a solvency regulation for insurers is to protect policyholders, by requiring them to secure a sufficient level of solvency to fulfill insurance obligations even in face of adverse events.

ESR-based regulation will better capture insurers' medium- to long-term solvency positions in a forward-looking manner, as insurance companies undertake complex risks ranging over long time horizons. By using ESR as a regulatory measure, the JFSA would be able to urge an insurer to re-establish its solvency position at an early stage when its condition is expected to deteriorate. Such an approach would be more consistent with

[9] The impact of interest rate decline is not recognized in the case of policy reserve-matching bonds and held-to-maturity securities.

[10] The Insurance Core Principles, developed by the IAIS, stipulates that the "supervisor establishes capital adequacy requirements for solvency purposes so that insurers can absorb significant unforeseen losses and to provide for degrees of supervisory intervention" (ICP17) and that the "supervisor requires that a total balance sheet approach is used in the assessment of solvency to recognize the interdependence between assets, liabilities, regulatory capital requirements and capital resources and to require that risks are appropriately recognized" (ICP17.1). In a total balance sheet approach, all the risks affecting any components of the balance sheet are assessed in an integrated manner, and interactions between assets, liabilities, required and available capital are recognized.

the fundamental objective of the JFSA's policy for the insurance sector, which is to protect policyholders over the entire contract periods.

(ii) Enhancing risk management (ERM) of insurers

In order to meet consumers' needs in a sustainable manner, it is essential for insurers not only to meet regulatory requirements but also to enhance their risk management proactively. Some members of the Council were of the opinion that misaligned sensitivities between ESR (a measure used in risk management) and the current SMR (regulatory standard) could become an impediment to better risk management, when insurers are required to control both. Another opinion expressed in the Council was that insurers need to recognize interest rate risks appropriately and transform their overall risk profile, so that they could continue to perform their primary role of undertaking insurance risks.

In light of the abovementioned points, the introduction of ESR as a regulatory benchmark will be an important step to enhance insurers' risk management. For insurers that are already utilizing ESR based on their internal models, it will bring better alignment of their risk management practices with the regulatory framework, thereby removing the abovementioned possible impediment. For other companies that have not adopted ESR, the introduction of ESR as a regulatory requirement will facilitate the development of an economic value-based risk management framework in these insurers.

(iii) Provision of information to consumers and market participants

Insurers publish information on their business and financial positions that are required under the existing disclosure requirements, while disclosing additional information on a voluntary basis. Some insurers voluntarily disclose their ESRs that are calculated based on their internal models as well as EV, as economic value-based information is useful for market participants as an indicator of companies' financial soundness and enterprise value, which may not be adequately reflected in accounting-based disclosure. On the other hand, some members of the Council pointed out that the usefulness of such voluntarily disclosure might be somewhat limited, due to the lack of comparability because of the differences in the definitions and methodologies adopted among insurers.

Information disclosure concerning financial soundness will be enhanced and become more comparable, if insurers start to disclose information based on a universal (economic value-based) standard used as a regulatory benchmark. It will facilitate dialogue between insurers and external stakeholders,[11] which will improve corporate governance and

[11] In this report, the term "external stakeholders" refers to any parties related (or potentially related) to insurers other than the supervisory authority, such as market participants (e.g. investors) and consumers (current and potential insurance policyholders).

discipline of insurers through external scrutiny.

2) Issues to be noted regarding the economic value-based regulation

While ESR has many advantages, introducing ESR as a regulatory measure may not automatically bring the benefits mentioned in 1) of Section 3. Some members of the Council called for the need to consider the following points when designing ESR as a regulatory requirement.

(i) Impact on insurers' behavior

Compared with the current SMR, ESR could fluctuate significantly in response to changes in the economic environment, depending on the balance sheet structure, while it represents a merit of the economic value-based approach in that it reflects the fact that insurers have exposures to market risks that give rise to such volatility.

There was an opinion that insurers may view the regulatory minimum (ESR=100%) as a level that cannot be breached even temporarily when an insurer faces a rapid and significant shock to interest rates or equity prices,[12] which may restrict insurer's managerial decisions in a manner that could bring about negative side effects.[13]

As a response to such a view, it was pointed out that the volatility of the regulatory ESR could be mitigated to an extent by adopting the Ultimate Forward Rate (UFR) for discount rates. There could be a realistic path to mitigate potential side effects by increasing the consistency between the regulatory framework and insurers' risk management (as discussed in 2) of Section 5), thereby making the regulatory environment and supervisory actions more predictable for insurers. Such a viewpoint would also be important in designing ESR as a regulatory framework and the operations of supervisory interventions based on ESR.

(ii) Impact on the provision of products that suit consumers' needs

The Council discussed potential impacts of ESR-based regulation on the provision of

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[12] In relation to this, there was an opinion that we need to make sure that the meaning and the nature of economic value-based indicators are correctly understood to avoid misinterpretation and reputational risks, as the management of an insurer has to pay attention to reputation from outside, regardless of whether and how supervisory measures are taken.

[13] Several possibilities were pointed out in this context: that the fall in investment income due to restriction on investment options may affect insurers' ability to fulfill insurance obligations or pay dividends; that fire sale of assets may be a cause in times of stress; and that insurers may be forced to excessively curb sales of long-term guarantee products.

insurance products, referring to the cases in Europe (Germany in particular).

The characteristics of products provided by insurance companies significantly vary among jurisdictions. In Germany, saving-type pension products, particularly traditional fixed-rate ones, have had a large share in the life insurance market. However, since the 2010s, an uptrend has been observed in the share of so-called hybrid type pension products, which link the amount of pension benefits to investment performance, while these products typically have a certain floor as minimum.[14] While it is difficult to identify the exact causes of such a trend, this may be regarded as a case where insurers have tried to strike a balance between adapting to changes in the economic (low interest rates) and regulatory (the introduction of Solvency II) environment and meeting consumers' needs.

In general, it may be inevitable for insurers to shift their product lines in accordance with the changes in the economic environment and consumers' needs. When regulatory reforms take place, the new framework should not distort insurers' product strategies in a manner that inappropriately affects insurers and consumers. In this respect, some members of the Council suggested that the government should consider measures to lower the hurdles for insurers to provide long-term guarantee products,[15] given that the economic environment is beginning to make it challenging for them to provide such products.

(iii) Impact on proactive enhancement of insurers' risk management

There are various methodologies that could be adopted in economic value-based solvency assessment, e.g. the choice of the discount rates and techniques for risk measurement. In the context of insurers' own risk management, it is important for them to choose the most appropriate from a range of available methodologies in accordance with their own risk profile, business structure, and the purpose and use. On the other hand, it might be difficult to account for idiosyncrasies across insurers when designing a standardized model for solvency regulation (a basic calculation model of ESR that is available to all insurers).

In the case of ICS Version 2.0, for example, some of the assumptions are set in a uniform manner, as in the case of the Ultimate Forward Rate (UFR) not based on observed market

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[14] It appears that it is not leading to a rapid increase in complaints from consumers, at least based on publicly disclosed information. On the other hand, an insurer may choose run-off if they failed to adjust to changes in the economic and regulatory environment. While it could be a rational choice from an economic standpoint, it was pointed out in the Council that some of the run-off companies have given rise to concerns over the protection of consumers and reputational issues.

[15] Issuance of ultra-long-term bonds, as well as a flexible product approval process by the regulator to encourage development of insurance products that provide a range of options available to consumers while limiting interest risk for insurers, were cited as an example.

rates, as discussed later in detail. In addition, some specifications (e.g. risk factors and correlation matrices) may not sufficiently reflect each insurer's risk profiles, and thus could be conservative in some cases.

As mentioned in 1) (ii) of Section 3 above, the introduction of ESR as a regulation will contribute to the sophistication of risk management by insurers. Nevertheless, some members of the Council stated that some insurers' efforts to enhance their risk management may stall, if they are fixated with the same approach as the regulatory standardized model. There was also an opinion that requiring detailed measures even for the less important parts of the regulation may lead to inefficiencies. It is important to examine what kind of framework can promote insurers' spontaneity and proactive risk management, together with these points.

3) Towards a prudential policy framework based on the economic value-based approach

Although each of the points listed in 2) of Section 3 above may have different causal paths and characteristics, these issues could become pronounced where the regulatory framework is based merely on the level of the regulatory ESR and operates in a rigid manner. To avoid these challenges and fully reap the benefits of the economic value-based approach, the JFSA should aim for a more holistic prudential policy[16] that also takes into account the internal management of insurers.

The Council discussed the overall picture of such a prudential policy framework, relying on the concept of "three pillars," which is also adopted in Solvency II in the EU. We also examined the key components of each "pillar," as well as various operational aspects of such a prudential policy framework.

Prudential policy based on the "three pillars"

- ✓ **Pillar 1 (solvency regulation)**: establishes a common standard of a solvency ratio and a framework of supervisory interventions, which functions as a backstop to protect policyholders.
- ✓ **Pillar 2 (risk management and supervisory review)**: covers risks that are not fully captured in Pillar 1 and establishes a supervisory review on insurers' risk management frameworks that facilitate enhancement of their

[16] In this report, the term "prudential policy" is a concept that covers both the prudential regulations for insurers and on- and off-site supervision over insurers based on them.

risk management practices.

- ✓ **Pillar 3 (disclosure)**: facilitates dialogue between insurers and external stakeholders that improves corporate governance and enhances discipline in insurance companies through external scrutiny.

(i) Pillar 1

Pillar 1 broadly corresponds to the so-called solvency regulation. The standardized model of an ESR, which serves as a benchmark for the solvency assessment, is the most fundamental element of Pillar 1 (Section 4-1).

In addition, a framework for using insurers' internal models within Pillar 1 should be considered, to reflect the risk profiles of each insurer more appropriately (Section 4-2).

In general, the calculation methodologies for the standardized model need to be defined explicitly by the regulation. At the same time, a principle-based approach might be appropriate to defining certain details, particularly those related to the valuation of insurance liabilities. With these points in mind, the FSA needs to examine a framework to ensure the relevance, reliability of, as well as a certain degree of comparability of the calculated figures (Section 4-3).

Lastly, to ensure policyholder protection, it is necessary to establish criteria for triggering supervisory intervention based on the level of ESR, as in the current Early Corrective Action framework (Section 4-4).

(ii) Pillar 2

Under Pillar 2, the supervisory authority reviews insurers' risk management and engages in dialogue with them. While a wide range of tools and channels could be deployed, one of its important objectives is to capture risks that are not adequately covered in Pillar 1 (in the standardized model).

Insurers need to go beyond quantitative solvency assessments and ensure the effectiveness of the Enterprise Risk Management (ERM) and Own Risk and Solvency Assessment (ORSA)[17] framework, while also covering qualitative dimensions. Under Pillar 2, another important task is to set an appropriate expectation for ERM/ORSA and facilitate improvement based on the assessment of each insurer.

[17] ORSA is defined as a process in which insurers assess their solvency by comparing current and future risks with their capital resources, and verify the relevance of their risk-taking strategies in a comprehensive manner.

(iii) Pillar 3

Pillar 3 is sometimes referred to as a "disclosure framework (on insurers' prudence)." While this is true, its fundamental objective is to facilitate dialogue between insurers and external stakeholders through disclosure, thereby improving governance and discipline. To achieve this objective, it is important to develop disclosure requirements of both quantitative and qualitative information (e.g. the overall level and component-by-component breakdown of ESR), considering a balance between the costs and the benefits.

4) Preparing for the new framework

As discussed below, the standardized model for the domestic regulation could be designed based on the ICS. At the same time, the new framework may need to take into account many other elements in the domestic context, while referring to examples in other jurisdictions and discussion at the IAIS. Thus, a preparation period will be needed to design an effective system based on dialogue between the JFSA, insurance companies and external stakeholders.

The preparedness of insurers is also among the issues to be considered when developing the new framework. It appears that Japanese insurers have been steadily becoming more proficient at calculating ESR, through the domestic FTs and utilization of ESR within their risk management framework. Nevertheless, when ESR is introduced as a regulation, it will be necessary for them to establish better governance with respect to the calculation and validation of ESR. In order to foster preparedness of insurers though the development of capacity,[18] including human resources and IT infrastructure for calculation, it is important to clarify the process and timeline towards the new framework and set a period for preparation. This will help the JFSA develop its capacity for the implementation of the new framework, and promote understanding and awareness among external stakeholders.

While it is important to make the transition into the new framework as soon as possible, as discussed in 1) of Section 3, it is also necessary to take into account the time required for such preparation. The FSA should also take into account the schedule for the development of the ICS and the need for IAIGs to adapt to the new global regulatory and supervisory framework. Considering all these factors, members of the Council are of the view that it is appropriate to prepare for the new framework, aiming at implementation in 2025. Some members also expressed an opinion that many of the key

[18] There was an opinion that a preparatory period of at least two years (after the specifics of the new regulatory framework have been mostly solidified) will be necessary for large insurers, although the situation could differ across insurers.

components of the new framework should be determined some time before its introduction, so that the industry could develop its capacity well in advance.

Based on these, the fundamental elements of the new framework (particularly the standardized model) should be tentatively determined by 2022, taking account of the results of domestic FTs[19] and international developments. Further development and fine-tuning of the remaining elements would follow, along with the formulation of official regulatory rules. The JFSA should aim at finalizing the framework around the spring of 2024,[20] and implementation in April 2025, which means that calculation under the new rules will start in FY2025.[21]

While the above discussions focused on solvency regulation, many of the issues related to the current SMR pointed out so far are also common to the current supervisory accounting framework. On the other hand, there was an opinion that the supervisory accounting should be maintained even under the new solvency framework, as it also plays a role in areas other than solvency assessment, such as determining dividends for policyholders and shareholders.[22] The design of supervisory accounting and its relationship with solvency regulation should be studied in the future, together with progress in the matters discussed here, as well as the development of practices related to IFSR 17.

In the following sections, we examine the possible directions and the points of discussion related to each component of the new prudential policy framework. The description on Pillar 1 is more detailed, partly because we devoted more time to discussing the specifics of Pillar 1 using the ICS as a reference; in comparison, the discussions on Pillars 2 and 3 were more abstract, focusing on some of the most important points. It is strongly expected that the JFSA will develop an effective framework for Pillars 2 and 3 as well in line with the direction suggested in the Council, while also reflecting the views from a wide range of stakeholders.

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[19] As a part of FT, an impact study regarding the new framework could also be conducted, for instance through using the levels and sensitivities of ESR, and assumptions on potential changes in insurers' behaviors under the new framework.

[20] There was also an opinion that the framework needs updates as necessary even after it is finalized, to account for changes in the economic environment and progress in risk measurement methodologies, to ensure it continues to meet its objectives. There was also a comment that consideration should be given to consistency between the domestic regulation and the ICS, because the finalization of the former will precede the finalization of the latter under the timeline proposed in this report.

[21] It is also important to monitor the developments related to Covid-19, although it does not necessarily affect the timeline proposed here at this moment.

[22] Relatedly, there was an opinion that the economic value-based indicators may be more lenient than the current accounting-based indicators under rising interest rates.

4. Pillar 1

4-1. Standardized model

The standardized model should maintain the concept of the economic value-based (market-consistent) approach and reflect quantifiable risks in an appropriate manner. On the other hand, it is important to note that the standardized model is applied universally to insurers of different sizes and characteristics.

From such a viewpoint, ICS Version 2.0, which has also been referred to in domestic FTs in the past, is a well-balanced standard on the whole. Therefore, it is appropriate to develop the basic structure of the standardized model for an ESR based on and to be consistent with the ICS.

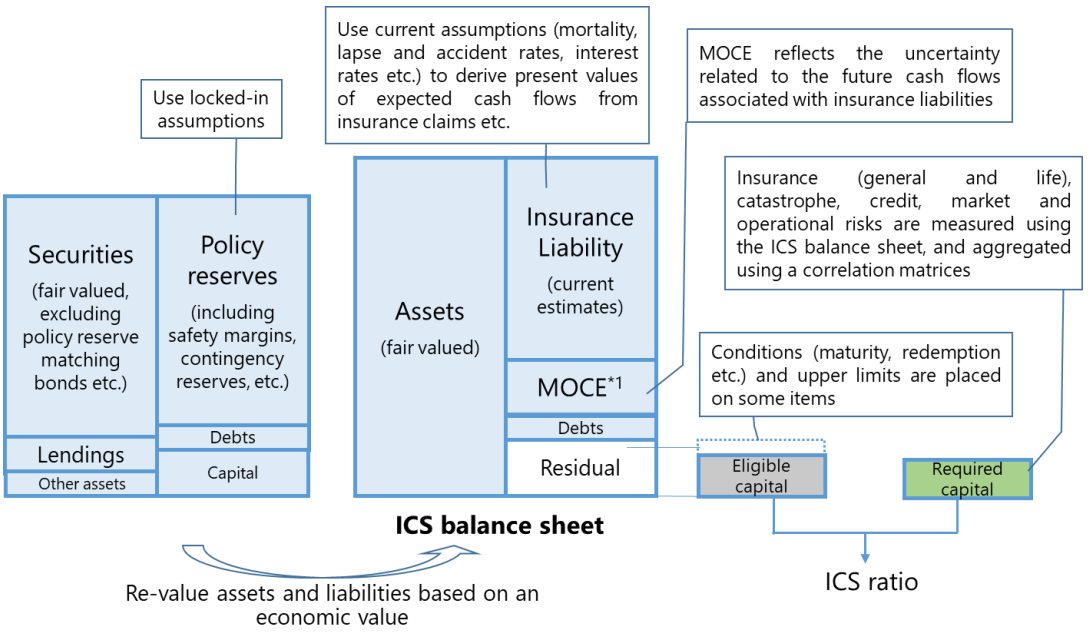
It should be noted that the ICS is designed as a group-based standard for IAIGs. Thus, it is reasonable to examine the areas that could be adjusted from the ICS for the domestic regulation, such as reflection of risk profiles of domestic insurers, including small to medium-size ones, and potential issues when it is introduced both as a solo-based and group-based regulation.

The specifications of the standard model should be finalized based on further technical study based on the FTs. In the following sections, we briefly touch upon the several key points at the moment and outline possible directions for further study.

Overview of ICS Version 2.0

The ICS is a standard to (i) assess the economic value of an insurer's balance sheet, (ii) identify the amount of risks (required capital) by measuring potential losses (in economic value) under certain stress scenarios, and (iii) assess the adequacy of capital (qualifying capital resources) against the capital requirement.

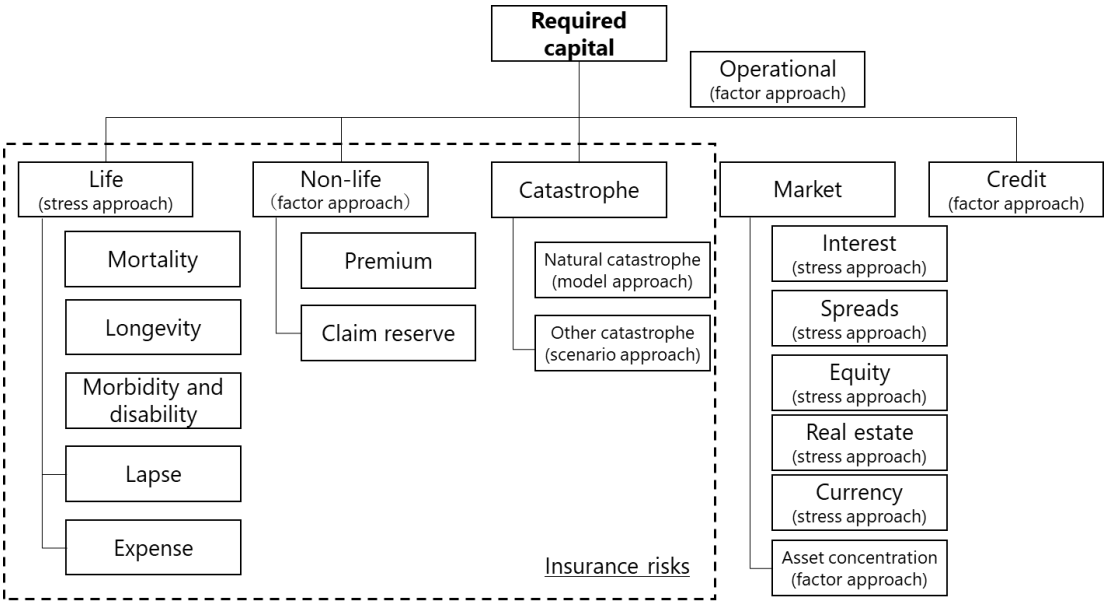
(Figure 1) Overview of the ICS



In the economic value-based balance sheet, insurance liabilities are evaluated based on a "market-consistent" approach, for example by using discount rates based on market rates and expected accident rates, as there is no market price for them, unlike many asset items. The amount of qualifying capital resources (the numerator of the ICS ratio) is calculated with necessary adjustments to the value of the net asset on the economic-value based balance sheet.

The required capital is calculated for each risk category with a prescribed methodology calibrated at 99.5% VaR over one year (a frequency of once every 200 years). In many of the risk categories, the required capital is defined as the changes in the value of (economic value-based) net assets under prescribed stresses (e.g. changes in parameters, including interest rates and accident rates), while a factor-based approach (multiplying the amount of an exposure by a prescribed factor) is also used for some. The required capital for natural catastrophe risk is calculated using stochastic models.

(Figure 2) Measurement methodologies of capital requirements under the ICS (standardized model)



(Note) Factor approach: multiply the amount of an exposure by a prescribed factor.

Stress approach: measure the changes in the value of (economic value-based) net assets when prescribed stresses are applied to parameters that constitute assumptions of the economic value-based assessment.

Model approach: derive the required capital by using stochastic models (insurers' proprietary models or models developed by external vendors)

Scenario approach: measure losses that are expected to arise under a prescribed scenario.

1) Adjustment of risk factors/classification to reflect the characteristics of the domestic market

There are several jurisdiction-specific risk factors in ICS Version 2.0, including those for Japan, which have been calibrated based on the data submitted from the participants of the ICS FTs.[23]

These risk factors set under ICS Version 2.0 could be used as benchmarks for Japan's ESR

[23] Risk factors specific to the Japanese market are set for some life insurance risks (mortality, morbidity/disability, and lapse risk), as well as non-life insurance risks.

regulation. Nevertheless, the risk factors and classification in the ICS might be less relevant for some of the domestic insurers, as they have been calibrated mainly based on data of large internationally active insurance groups. In particular, characteristics of insurance risks might be highly heterogeneous across insurers. Thus, it would be important to check the relevance of the risk factors, based on data collected from domestic insurance companies, including small and medium-size ones, and conduct re-calibration if deemed necessary.[24]

The members of the Council agreed overall that it is reasonable to examine such adjustments in coming years. In addition, there was an opinion that it is important to consider risks that have not materialized in the past, including global warming and changes in medical technologies, where possible. There was another suggestion to consider if a more granular classification is suitable to deal with the variability that may arise in smaller insurers.

With respect to those points, the 2019 domestic FT is piloting the collection and analysis of actual data on insurance risks.[25] Based on the result, the JFSA could collect finer data as necessary in the 2020 FT or after, so that a tentative decision on this matter could be made by 2022.

2) Adjustments required for solo-based regulation

While the ICS is a group-based standard, solo-based regulation is also important from the viewpoint of policyholder protection. Some members of the Council pointed out that some of the required capital calculation in the standardized model may not reflect the true risks (e.g. treatment of intra-group transactions and equity exposures related to their own subsidiaries) when the specifications of the ICS are directly applied for solo-based regulations. In this respect, it is appropriate to consider adjustment from the specifications of the ICS to make it suitable for the domestic solo-based regulation.

In addition, the Council discussed issues related to group-based regulations. For example, IAIGs might be required to calculate the ESR based on the multiple standards, i.e. those based on the domestic rules (applied to all insurers in Japan) and the ICS (designed at

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[24] Under ICS Version 2.0, non-life insurance risk factors are set for each of the 16 product lines (including "Others"), meaning that it is more granular than the current SMR (which has six categories, including "Others"). However, there was an opinion that the domestic framework should further take into account the characteristics of each insurer and each product line, for example by setting new categories for those currently included in "Others" (e.g. pet insurance). It was also pointed out that the treatment of long-term non-life insurance products, which are unique to the Japanese market, could also be considered.

[25] Collected data include forecasted and actual figures on payment of benefits for life insurance contracts in the past 10 years, and loss development triangles on property and casualty insurance.

the IAIS for IAIGs). If differences between these rules become large, some members argued, it may create an unnecessary burden on insurers, and could be misleading for stakeholders, including policyholders. In addition, there was an opinion that it is necessary to further discuss the treatment of subsidiaries located overseas within the group-based regulation.

While the domestic regulation will be applied not only to IAIGs but to all insurers, it is important to examine the extent of differences and relationships between those different standards in light of the abovementioned viewpoints.[26]

3) Other points of discussion regarding the standardized model

There are many other points of discussion regarding methodologies for the calculation of ESR. With respect to those points, it is necessary to check the relevance of the specifications of ICS Version 2.0 and assess whether there are major issues and/or valid alternatives. The Council discussed some of the key ideas, focusing on the methodology for the valuation of insurance liabilities, which is of particular importance in the economic value-based approach.[27]

(i) Discount rates for insurance liabilities

While it is an option to use the risk-free rates without adjustment in discounting insurance liabilities, there are several points of discussion, including the reflection of the spreads on the asset side in the discount rates, and the methodologies for extrapolation to the longer time horizons in which there is no observable market interest rates.

As for the extrapolation methodologies, the Ultimate Forward Rate (UFR) is adopted in ICS version 2.0 (extrapolation starts from 30 years for Japanese yen). In addition, the insurance liabilities are classified into three buckets according to the degree of cash flow matching between asset and liability sides, and part of the spreads on the asset side are reflected in the discount rates (i.e., the so-called Three-Bucket Approach in ICS version 2.0).

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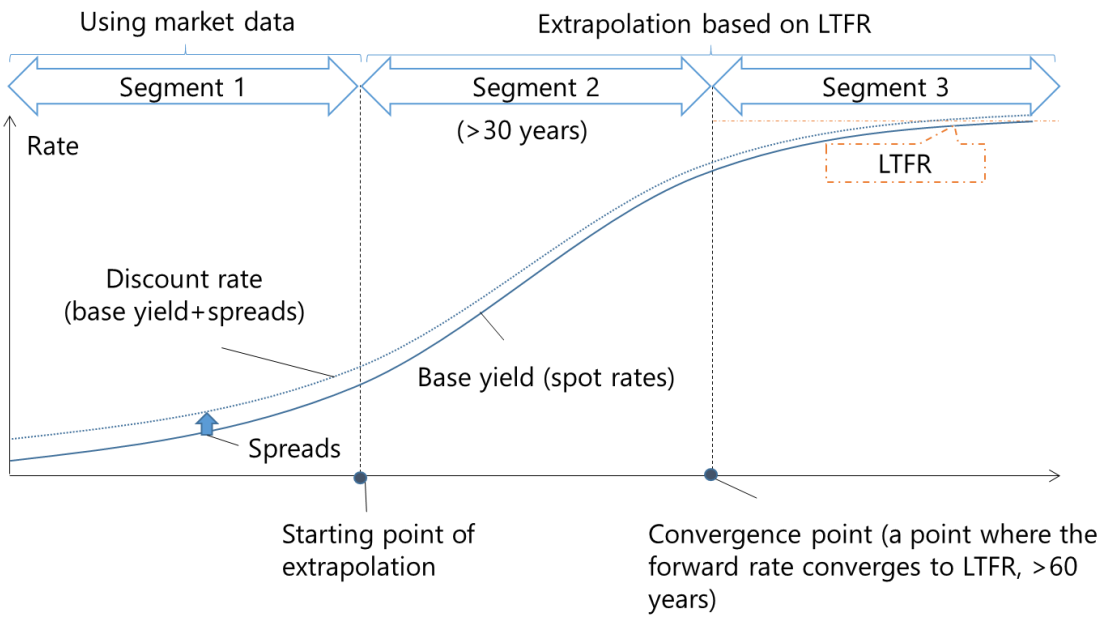
[26] Relatedly, there was a comment that we should try to reflect in the ICS some of the issues raised in the future study on the domestic regulation, where appropriate.

[27] In addition, several issues other than those related to insurance liabilities were discussed. One of the opinions was on the need for flexibility on the eligibility of the funds of mutual companies, given the fact that some of the major life insurers in Japan are mutual companies. There was also an opinion that the upper limit of the tax effects may be treated in an overly conservative manner in the calculation of required capital.

(Figure 3) Overview of the discount rate under the ICS[28]



This approach was adopted in ICS version 2.0 in consideration of the opinions from the industry on the mitigation of excessive volatility of ICS as well as the reflection of insurers' investment management strategies, while it maintains the basic concept of the economic value-based approach. Given this, it would be realistic to adopt this approach in the standardized model of Pillar 1 in ESR.[29]

On the other hand, it was pointed out that the yield curve goes up significantly after the start of the extrapolation (thus, the cash flows of the insurance liabilities on the longer horizons are heavily discounted)[30] with reference to the UFR, in the low interest rate environment. In light of this, some members of the Council stated that the discounts rates that do not depend on UFR should be considered within insurers' risk management framework[31] to appropriately measure and control interest rate risks, although an alternative methodology for extrapolation would be necessary in that case.

(ii) Margin over current estimate (MOCE)

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[28] The LTFR (Long Term Forward Rate) under the ICS is the same as the UFR.

[29] Some members pointed out that while UFR itself is not a rational approach, the utilization of UFR within Pillar 1 is acceptable, for instance to avoid overreaction from the external stakeholders to the disclosed level of ESR. Solvency II also adopted such measures as extrapolation using the UFR and the reflection of the spreads based on the degree of asset-liability matching (matching adjustment).

[30] Under ICS Version 2.0, the UFR for JPY is set at 3.8% (or 4%, if the additional spread is taken into account).

[31] Other related activities (e.g. pricing of insurance products) are also included in this context.

Within the Council, it was agreed that the margin over current estimate (MOCE) should be recognized for a market-consistent valuation of insurance liabilities, to reflect (unhedgeable) risks associated with insurance liabilities. On the other hand, various views were expressed regarding the treatment of the MOCE within a regulatory framework, as well as the methodologies for measurement and the level of MOCE.

a. Treatment of MOCE within a regulatory framework

One opinion, which was mainly from the life insurance industry, was that while it is necessary to recognize MOCE in the valuation of insurance liabilities, MOCE should be included as a part of eligible capital (or the corresponding amount should be subtracted from the required capital) and that it would be excessive to require MOCE in addition to the capital requirement calibrated at 99.5% VaR.

Other members were of the view that it is reasonable to require MOCE within a solvency regulation to take into account the transfer value of insurance liabilities, given that the valuation at the Prescribed Capital Requirement (PCR, a point where supervisory intervention is initiated) is conducted on a going-concern basis. Another opinion expressed was that it is inappropriate to cite financial assistance from a policyholder protection scheme as a reason to derecognize MOCE within a solvency regulation, as such financial assistance is merely a last resort measure to protect policyholders.

Overall, regarding the treatment of the MOCE within the domestic framework, the majority of the members agreed that it is reasonable to require a certain level of MOCE as part of the insurance liability even after stresses are applied, and not to deduct the MOCE from the required capital.[32]

b. Measurement methodology and the level of MOCE

The cost of capital approach[33] is one of the common measurement approaches for MOCE, and is thought to be consistent with the evaluation of insurance contracts when transferring them to third parties. It is also adopted for valuation of risk margin (equivalent to MOCE) under Solvency II.

Given that the percentile approach was adopted in ICS version 2.0, it would be a realistic option to follow a similar path in the domestic regulation in Japan. Nevertheless, in the

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[32] In ICS version 2.0, MOCE is included as part of insurance liabilities and is not deducted from required capital. The calculation of MOCE under ICS version 2.0 is based on the percentile approach, in which uncertainties associated with the future cash flow from insurance liabilities are measured as a proportion of single-year insurance risks based on VaR.

[33] In the developmental process of the ICS, the MOCE based on the cost of capital approach was defined as the present value of the multiple of i) the sum of required capital associated with insurance risks in each year, and ii) the cost of capital ratio.

meetings of the Council a significant disparity was also noted between the levels of MOCE based on the cost of capital approach and that based on the percentile approach (based on single-year risk, as adopted in ICS version 2.0), due to the long duration of the liability side of domestic life insurers. It was also pointed out that the relationship between risk, return and capital becomes blurred under the percentile approach, making it harder to understand its precise implications. Another opinion suggested the necessity to consider whether the percentile approach is appropriate for insurers own risk management framework even when it is adopted within Pillar 1, in light of the abovementioned points.

It is desirable to continue study on the measurement methodology and the level of MOCE for domestic regulations, keeping in mind the difference between the two competing approaches and the abovementioned considerations. It is also important for insurers to have a clear idea on the treatment of MOCE and its calculation methodologies within their risk management framework, regardless of the treatment of MOCE within the regulatory standardized model.

4) Adjustments to achieve certain policy objectives

Some members of the Council suggested that certain adjustment measures should be considered to mitigate the impact of the regulatory framework on insurers and the financial market. Specifically, the industry has argued for the symmetric adjustment mechanism for equity risks and refinement of risk factors and correlation matrices for asset classes with risk characteristics that are different from others (e.g. infrastructure investment).[34]

While these measures might become an option when they are effective in achieving such policy objectives, there could be several drawbacks; for instance, such measures might induce a regulatory arbitrage or impede the enhancement of insurers' risk management. Considering this, it is necessary to discuss the necessity of such measures based on the understanding of the impact of the new regulatory framework on insurers' behaviors as well as quantitative evidence of risk mitigation effects, through future FTs. In addition, it is also necessary to keep in mind not only the adjustments to the standardized model but also its relationship with other measures that may have a similar effect, for instance the transitional arrangements and the room for flexibility of supervisory measures based on ESR.

[34] Both measures have been introduced under Solvency II. Under the symmetric adjustment mechanism for equity risk, equity risk factors are lowered when the current stock prices are below the average over a preceding period, while they are increased when the current stock prices are higher than the average in the past.

4-2. Internal models

Insurers should continue to pursue a risk management framework that better fits themselves. Internal models are one of the important tools that should be employed according to the objectives, insurers' risk profiles and characteristics. The prudential policy framework should be designed so as to facilitate insurers' spontaneous efforts to improve their risk management.

Two main approaches to achieve the goal would be: (i) allowing the calculation of regulatory ESR using insurers' own internal models[35] under certain conditions; and (ii) the JFSA monitoring insurers' risk management and encouraging its enhancement, under Pillar 2 (as discussed below). This section examines the former approach (i.e. the treatment of the internal models within Pillar 1).

1) Basic concepts

The rationale for allowing the use of internal models under Pillar 1 is to reflect individual insurers' risk profiles that are not fully captured by the standardized model, as well as to give insurers an incentive to enhance their risk management through integrating the regulatory requirements and their risk management.

Some members of the council noted that the approval process for internal models would potentially create a burden both for the JFSA and insurers, and that there would be issues on comparability among insurers from the perspective of external stakeholders when internal models are used. Another view expressed was that risk management should continue to improve independently from a regulatory framework, and thus the reduction in the Pillar 1 capital requirements would not be an appropriate incentive for better risk management. There was also a comment that priority should be given to reflecting individual insurers' risk profiles in the standardized model, and where that is not possible, the use of an internal model could be an option.

There are many technical elements in the framework for internal models for Pillar 1, including both the standards for approval and its operations. Given that, dialogue with the industry should continue in the preparatory phase. The relationship between internal models and the standardized model should also be examined carefully in the process. The potential first step could be self-assessment by insurers on their internal models, and the JFSA's study and stocktaking based on the dialogue between insurers and the JFSA may follow. Based on such studies, tentative standards for approval might be developed

[35] In this context, it refers to internal models that are used by insurers to calculate the denominator (required capital) for Pillar 1.

by around 2022, followed by step-by-step preliminary assessments and refinement of the standards, which would lead to the finalization of the framework and the clarification of its operations. In the process, it is appropriate to take into account the study on internal models within the ICS, which will take place in coming years.

In light of examples in the several other jurisdictions where substantial resources have been required for the approval of internal models, the JFSA should seek to develop an effective and efficient process for the domestic framework. In addition, it is important both for the JFSA and insurers to build capacity to handle internal models in a proactive manner.

2) Scope of internal models under Pillar 1

There are two approaches when allowing the use of internal models within Pillar 1: (i) using the full internal models used within an insurer' risk management framework (full internal models) and (ii) applying the measurements based on internal models onto part of risk categories and integrating them with other parts measured based on the standardized model (partial internal models).

Consistency between the regulatory requirement and insurers' risk management would be greater when full internal models are permitted, which could provide them with a stronger incentive to enhance their risk management framework. In addition, unlike in the case of the partial internal models, it will prevent insurers from applying internal models selectively to the areas where the capital requirements are reduced.

With that said, it seems reasonable to examine the scope of internal models under Pillar 1 category by category. For example, stochastic models are used to measure the natural catastrophe risk within the ICS to reflect individual insurers' risk profiles, and thus models developed in-house or by vendors are permitted as part of the standardized model. On the other hand, some members of the Council pointed out the necessity to ensure the quality and consistency of the results from these natural catastrophe models under the domestic regulatory framework, for instance through assessment by the JFSA. The JFSA should engage with insurers and prioritize the study on internal models for natural catastrophe risks, including on the treatment of the model developed by the General Insurance Rating Organization of Japan, which is used by many insurers both for the current SMR and the domestic FTs.

As for risks other than natural catastrophe risk, there might be substantial heterogeneity in insurance risk profiles across insurers. As was mentioned in 1) of Section 4-1, the first step would be to examine the difference between internal models used by individual insurers and the standardized model, and the need for adjustment of risk factors and subdivision of categories in the standardized model. On that basis, the use of the internal models under Pillar 1 might be considered to reflect the residuals that could not be

incorporated in the standardized models.[36]

It was pointed out in the Council that the market risk profiles are relatively homogenous across insurers. Given this, there was an opinion that a cautious approach would be needed for the internal models on market risks, considering the potential issue of comparability under Pillar 3.

A realistic path to develop a framework for internal models should be taken on a step-by-step basis: by prioritizing domestic and overseas natural catastrophe risks and then moving on to insurance risks (other than natural catastrophe risk), followed by the market risks.

3) Approaches to the rules and process for approval

ESR based on the internal models will be used as a trigger for supervisory intervention and public disclosure, if the use of an internal model is allowed under Pillar 1. A framework for assessment and approval of internal models by the JFSA will be needed, to block the use of overly optimistic models that do not match the true risk profiles of each insurer.[37]

(i) Statistical quality test

A "statistical quality test" refers to the validation of technical specifications of internal models (e.g. methodologies to measure capital requirements, underlying assumption and the quality of the input data). While it could be reasonable to provide insurers with a certain degree of latitude as to model choice from the standpoint of incentives for enhancing risk management, there are examples where the approval process is conducted using benchmark models, such as the Prudential Regulation Authority (PRA) of the United Kingdom. On the other hand, some members of the Council pointed out potential challenges in such an approach, for instance: difficulties in assessing different insurers based on the common benchmark; possibility of reducing the merits of internal models (i.e. to better reflect insurers' risk profiles) by incentivizing insurers to adopt models similar to the benchmark; and challenges for insurers in the assessment process where they have to justify the difference between their own models and the benchmark. Further study needs to be conducted to develop the framework for assessment, through

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[36] Another option related to insurance risks would be to allow the use of parameters specific to individual insurers within the standardized model. Even in that case, a certain framework would be required to ensure appropriate validation and data quality.

[37] Within the ICS, insurers may submit results calculated by using their internal models. In that case, insurers are required to report to the group-wide supervisors the results of the self-assessment against the specified prerequisites. A similar self-assessment on internal models was conducted in the domestic FT in 2019.

dialogue between the JFSA and the industry.[38]

(ii) Independent validation process on internal models

The final decision regarding the use of internal models under Pillar 1 is made by the JFSA via the approval process. It could also be reasonable to make the approval process effective and efficient by leveraging each insurer's independent validation processes. To that end, it is necessary for individual companies to develop an effective framework where a function independent from those responsible for model development and calculation performs validation of internal models. Validation by third parties could also be utilized to supplement scarce in-house resources or to perform validation from an independent standpoint. Furthermore, it is important that models are updated and validated in a timely and appropriate manner to reflect changes in the environment in which insurers operate.[39]

It could be challenging to strike a balance between "independence" and "effectiveness/efficiency" in such a validation process. While the assessment of technical details could be performed in an effective and efficient manner where the validation function and development/calculation function are proximate, independence of the validation might be sacrificed. On the other hand, the opposite situation might arise where the two functions are distant.

The JFSA needs to check the effectiveness of such internal validation process via dialogue with insurers and perform comparative assessment across the insurers. Additional validation might be required if gaps are found through the assessment process.

(iii) Use test and governance

As internal models under Pillar 1 aim at improving consistency between regulatory requirements and insurers' risk management, they have to be utilized for their decision making. It is important that the governance framework on the internal models is in place with ultimate ownership at the Board level, and that models are actually used for various managerial decisions.

Although it is not realistic to require everyone at the Board and management levels to understand all the technical details of models, they need to know the basic features of the models to utilize them for managerial purposes. To check the understanding of the

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[38] There was also an opinion that consideration should be given to the treatment of "floors" regarding the required capital (i.e. the minimum amount of required capital under internal models, in comparison with one under the standardized model).

[39] One possible scheme for follow-up on the internal models already approved would be a submission of validation reports on the internal models by insurers to the JFSA.

top and senior management regarding the models, the JFSA could engage in dialogue with them with respect to the outputs, underlying mechanisms and limitation of the models.

4-3. Validation framework for insurance liabilities

While insurance liabilities account for most insurers' liabilities, market prices do not exist in principle. In addition, there are many different options, including the choice of assumptions, when deriving the economic value of insurance liabilities. The valuation framework should properly reflect the actual risks of each company and be effective in promoting better risk management. From that standpoint, it should be principle-based, with certain room for judgment by insurers to reflect their historical performances and risk profiles.[40]

On the other hand, when ESR is introduced as a regulatory standard and is used for supervisory intervention and public disclosure, some form of discipline should be in place to ensure the relevance, reliability, and a certain degree of comparability of calculated figures.

To develop an effective framework while satisfying those two competing requirements, it is desirable to enhance the reliability of the framework as a whole based on established practices by experts with professional skills and knowledge. Approaches to be taken to that end include:

- Developing guidance on calculation and validation of insurance liabilities, while ensuring its consistency with the regulation.
- Clarifying expectations on the level of internal or external validation required to ensure the relevance and reliability of the calculated figures, and facilitate capacity development of insurers in this regard.

1) Guidance on the calculation and validation of insurance liabilities

Calculation and validation of insurance liabilities should cover several components, such as the inputs (ensuring data quality), processing (appropriateness of the choices of calculation methodologies and assumptions) and outputs (analyses of variation from the previous period, differences between the predicted and realized value, sensitivities, etc.).

In that process, personnel in charge need to exercise expert judgments on calculation

[40] Some of the details of valuation of insurance liabilities, including the underlying assumptions of current estimates, are specified neither under Solvency II nor the ICS.

and validation of insurance liabilities, based on the abovementioned guidance. The guidance could, for example, present examples of methodologies to facilitate proper judgment, and specify further details on the areas where a higher degree of consistency regarding methodologies across insurers is desirable. In order to make it practically useful and well-balanced, the JFSA and the Institute of Actuaries of Japan (IAJ) should collaborate in conducting further study. In addition, it is also important for the JFSA to engage with insurers and check their independent decisions on the choice of methodologies and rationale behind it, so that reliance on guidance does not impede the evolution of methodologies.

2) Insurance companies' capacity for validation (the actuarial function)

The Insurance Core Principles (ICP) by the IAIS have provisions on the actuarial function as one of the internal control functions which insurers should be equipped with.[41] In the following subsections, key points of the system and framework for validation, including its authority, independence, resources and fitness/properness are summarized, using the provisions in the ICP as a reference.

(i) Authority of the validation function

The ICP positions the actuarial function as one of the main control functions of insurance companies[42] and stipulates that it should be given appropriate authority, regardless of whether it exists in the form of an individual person or a business unit. Validation of insurance liabilities is one of the main roles of the actuarial function, and its role and responsibility should be clearly defined within insurers' governance framework.

Under the current framework, the roles and responsibilities of an Appointed Actuary are clearly stipulated in the Insurance Business Act, which broadly corresponds to those of actuarial function. On the other hand, an Appointed Actuary is required only on a solo-basis for each insurer, and many practices under the economic value-based regime may be substantially different from those of an Appointed Actuary. In addition, some members of the Council pointed out the necessity to clarify whether the scope of the validation should include items other than insurance liabilities (e.g. required capital).

In light of these, the JFSA should consider formally defining the actuarial function,

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[41] In this report, the term "function" refers to a part of an organization assigned to perform a particular type of activities. A function may exist in the form of either an individual person or a business unit. In some cases, multiples units may constitute a single function as a whole.

[42] ICP 8.6 stipulates that the "supervisor requires the insurer to have an effective actuarial function capable of evaluating and providing advice regarding, at least, technical provisions, premium and pricing activities, capital adequacy, reinsurance and compliance with related statutory and regulatory requirements." Other functions cited by the ICP include the risk management function (ICP 8.4), the compliance function (ICP 8.5) and the internal audit function (ICP 8.7).

including a group-based perspective, while keeping in mind its relationship with the current Appoint Actuary system.

(ii) Independence of the validation function

The validation function needs to check the work of the calculation function and provide alternative perspectives. To secure its effectiveness, the validation function should be independent from the calculation function and have sufficient capacity to provide effective advice and raise issues to the calculation function and the management. From such standpoint, it is essential that actuaries exercise professionalism in performing their duties.[43]

As discussed in relation to internal models under Pillar 1 in 3) (ii) of Section 4-2, there was a comment on the balance between the independence and effectiveness/efficiency, as well as the cost and the benefit associated with it.

The importance of the involvement of the management was also pointed out. The calculated economic value-based indicators needed to be reported to the management and the Board, and utilized for managerial decisions. For example, the Solvency II framework mandates that the actuarial function report, which includes the validation results of insurance liabilities, be submitted to the management. A similar arrangement for reporting could be considered in the Japanese framework as well.[44]

(iii) Resources and capability of the validation function

The validation function should possess sufficient resources, including human resources and IT infrastructure, to perform its duties. The validation of insurance liabilities is an important element of insurers' risk management, and insurers need to develop sufficient in-house capacity. On the other hand, some members of the Council mentioned the need for proportionality based on the size and complexity of each insurer, given that it could be challenging for some small- to medium-sized companies to build sufficient in-house capacity.

In addition, as the calculation of insurance liabilities depends on theoretical and practical knowledge of the actuarial matters, it is important for the validation function to possess

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[43] The expectations on actuaries will grow further in the future, and thus the roles of the IAJ, an independent professional association, will also become even more important. Some members of the Council suggested that the IAJ further improves its capacity and provides more information and opportunities for training to a wider audience.

[44] A trial of validation reports on insurance liabilities was conducted in the domestic FT in 2019, using the standard of practice developed by the Actuarial Association of Europe (ESAP2) as reference.

relevant expertise and experience (i.e. fitness and properness). A framework needs to be developed to ensure the capability of the validation function, while also referring to the existing practices, including those under Solvency II.[45]

3) External validation

The validation by external experts of economic value-based balance sheets (including items other than insurance liabilities) and/or of risk measurement could also be an option. External experts would generally be less biased in comparison with internal ones, and could complement internal validation via expertise accumulated through working with different companies.[46] Some members of the Council were of the view that it is inevitable to rely on external knowledge as the validity of calculation methodologies cannot be achieved only through internal processes. At the same time, insurers should not depend solely on external resources — it is necessary that internal and external validation processes play complementary roles.

Insurers that voluntarily apply the IFRS or disclose EV would periodically undergo external audit and/or validation. One possible option would be to leverage these existing frameworks for efficient calculation and validation of an economic value-based balance sheet, keeping in mind the difference in the scope of consolidation (as IFRS would be applied at the group level) and the possibility of choosing different methodologies and assumptions according to their objectives. In light of this, further study should be conducted on the role, framework and standards for external validation under the new regulation, considering the balance between cost and effectiveness/efficiency.

4) Supervision by the JFSA

In cases where material problems arise in insurance liabilities due to a failure of internal and external validation processes, the JFSA needs to perform its role as an ultimate backstop. The JFSA needs to develop a framework to perform supervision of insurers' validation process and intervene where necessary, while respecting the autonomy of internal and external validation in normal times. Relatedly, some members of the Council pointed out the necessity to build up the resources and capacity of the JFSA to perform the task.

4-4. Supervisory intervention based on ESR

[45] Under Solvency II, the capability of the actuarial function holder is assessed on an ongoing basis, against a fit and proper policy formulated by each insurer.

[46] There was also an opinion that external validation should be mandated under the new framework, considering that many jurisdictions have some rules regarding external validation under Solvency II.

When the JFSA takes supervisory actions based on the level of solvency indicators of an insurer, its intensity would gradually increase as the insurer's condition deteriorates. In the ICP, two concepts are defined as to the ladder of supervisory intervention, namely the Prescribed Capital Requirement (PCR), where formal supervisory intervention is initiated, and the Minimum Capital Requirement (MCR), where the strongest supervisory actions could be taken, such as suspension of an insurer's operations.

Given that ESR is defined as the ratio of eligible capital and the required capital (the amount of risk), it is reasonable to set the PCR at 100% (in ESR) and increase the intensity of measures as ESR goes down. Such an approach would be consistent with the existing Early Corrective Action framework based on the current SMR.

1) Supervisory measures under the PCR

Supervisory actions based on ESR will be able to account for the impacts on insurers of the changes in underlying assumptions in a timely manner, while also considering the potential impacts of supervisory actions on insurers' behaviors, as discussed in 2), (i) of Section 3. Specifically, it would be reasonable that an insurer is required to recover the financial condition (raising the level of ESR) upon breach of the PCR under the supervisory intervention framework based on ESR. In addition, the following approaches could be taken in its operation:

- There could be some flexibility when setting the recovery period, reflecting the market environment and the realistic timing of materialization of risks. For instance, while the recovery period might be one year in principle,[47] it could be extended to two or three years when there is some time before risk materialization, or shortened to six months when there is a material near-term concern.

- In particular, a relatively long recovery period could be allowed when the majority of insurers are materially affected by an exceptional adverse situation, as in Solvency II.[48]

- The supervisory responses within Pillar 2 (before the breach of the PCR) should be operated in a continuous manner, to avoid a large discrepancy (a cliff effect) in the supervisory actions taken before and after the breach. To that end, the JFSA should engage with insurers in normal times and share the perspectives on the potential

[47] Under the current framework, a recovery plan to be formulated upon the breach of SMR = 200% should be designed to aim to achieve recovery (to a level above SMR = 200%) within one year in principle (Comprehensive Guidelines for Supervision of Insurance Companies, II-2-2-2 (2)).

[48] Under Solvency II, the recovery period could be extended by up to seven years in the event of exceptional adverse situations affecting insurers representing a significant share of the market, considering such factors as the duration of their liabilities.

risks, including through discussion on a capability to control ESR and an action plan for situations where there is a fall in the level of ESR.

2) Design issues related to the MCR

While 0% in the SMR corresponds to the MCR in the current Japanese framework, there does not seem to be a dominant approach as to the formula and the level of the MCR in other jurisdictions. For example, the MCR under Solvency II is based on a simpler measurement of capital requirements (which does not allow the use of internal models) than in the case of the PCR, to ensure its objectivity and robustness.

It is also important to ensure consistency with insurers' risk management and the continuum of supervisory measures at the PCR and the MCR. From this standpoint, one option would be to make the formula for the MCR consistent with the PCR in principle, and make some adjustments where necessary. Relatedly, some members of the Council argued that the existing regulation on the net real assets, which is also used as the MCR, is not consistent with ESR and thus should be removed from the Early Corrective Action framework under the new framework.[49]

Given the existence of multiple approaches regarding the MCR, further study would be needed to narrow down the options, including on the effectiveness and validity of the MCR based on the same formula as the PCR, and the areas of potential adjustments. It is recommended that the design of the MCR be finalized after 2022, building on the outcome of such preparatory work.

Another point of discussion is the relationship between the supervisory intervention at the MCR and the resolution procedures stipulated in the Insurance Business Act and the Corporate Reorganization Act (and the Act on Special Measures for the Reorganization Proceedings of Financial Institutions). While the supervisory intervention at the MCR and resolution procedures may be considered conceptually distinct if the resolution trigger is based on the accounting-based balance sheet, they could be intertwined in actual cases. The design of the MCR and the framework for supervisory measures should be developed bearing in mind the relationship between the two.

5. Pillar 2

[49] Another opinion proposed in the meeting was to exclude both policy reserve-matching bonds and matching policy reserves from the net real assets, even when the net real asset regulation is not completely abolished.

Under the current framework, prudential supervision of insurers is conducted based on multiple channels of communication, such as various data reporting and analyses (including supervisory reporting related to accounting and risks, and ORSA reports), the Early Warning System,[50] and various interviews and dialogue (see Figure 4 below). These are regarded as tools constituting Pillar 2.

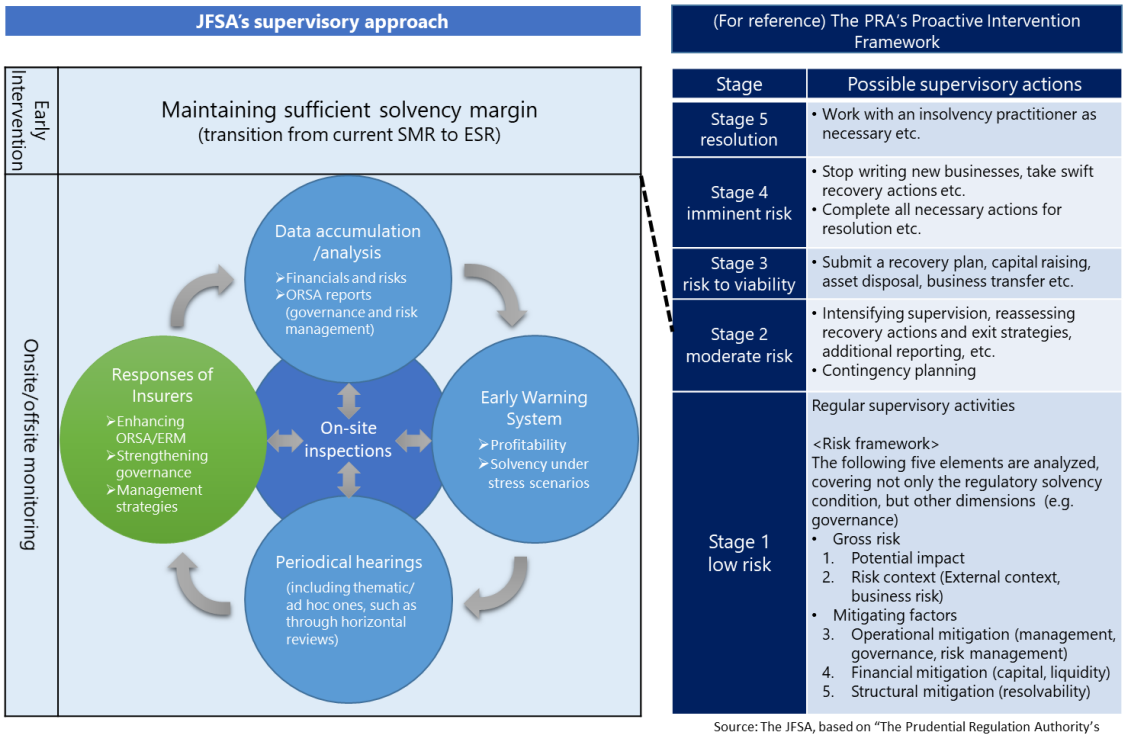
As mentioned above, insurers have made progress developing and enhancing their ERM framework integrating an economic value-based approach, and the JFSA has encouraged such movements by expanding the descriptions on the ERM in the Comprehensive Guidelines for Supervision of Insurance Companies (February 2014) and by mandating the ORSA report. Thus, it could be said that an economic value-based perspective has already been integrated into Pillar 2 to some extent. Nevertheless, there might be certain limitations in the current framework due to their reliance on the existing solvency and accounting framework.

As was mentioned in 4) of Section 3, it is appropriate to work on the development of Pillar 1 in the coming years, aiming at its implementation in 2025. On the other hand, the actions related to Pillar 2 should be initiated before the finalization of Pillar 1, to facilitate improvement in both insurers' and the JFSA's capacity and make a smooth transition into the economic value-based framework.

In developing and implementing the framework of Pillar 2, it would be necessary for the JFSA to have close dialogue with insurers, who actually produce and manage the reported data. Some members of the Council also stressed the importance of referring to opinions from external experts when enhancing the framework of Pillar 2.

[50] Under II-2-3 of the Comprehensive Guidelines for Supervision of Insurance Companies, it is stipulated as a framework to encourage insurers not subject to a corrective action to make improvement at an early stage in order to maintain and enhance their financial soundness.

(Figure 4) Dynamic supervision under Pillar 2



Source: The JFSA, based on "The Prudential Regulation Authority's approach to insurance supervision" by the PRA

1) Reorganization of reporting data and the Early Warning System

Most off-site monitoring data collected by the JFSA from insurers, including financial, accounting and risk information, are linked to the current regulatory framework. The reporting data could be reorganized to increase the weight of economic value-based and risk-sensitive information, which will enable a better understanding of insurers' status in a more timely matter, based on a total balance sheet approach. In addition, the impact of various stress scenarios on insurers could be analyzed, by utilizing the data on sensitivities.

The JFSA could improve the Early Warning System by incorporating these points, so that it would be able to grasp the status of each insurer more accurately, and to hold more in-depth dialogue with them.

To facilitate a gradual and smooth transition to the new framework, it might be an option to clarify the legal status of domestic FTs, which have been conducted on a voluntary-basis. It is also necessary to bear in mind the issue of the deadline for and frequency of data submission, as well as the accuracy of reporting, given the differences in insurers' capacity observed so far.

2) Insurers' risk management

It is essential for insurers to avoid overreliance on the standardized model of Pillar 1 and

enhance the ORSA proactively, including utilization of internal models to properly reflect their risk profiles. For instance, in the context of ORSA, insurers could use discount rates other than those prescribed in the standardized model (e.g., the use of the UFR), and/or employ finer methodologies for risk measurement based on more granular data that reflects the characteristics of their own insurance and investment portfolio. The risks that cannot be fully covered in Pillar 1 or that are difficult to quantify (e.g., climate and cyber risks) also need to be captured through the ORSA.

The focus in the context of solvency regulation tends to be the amount of risk versus capital, but the balance between risk, return and capital is crucial in ERM. In light of this, some members of the Council stressed the importance of analyzing the mechanism of generating returns (= creating capital) from the economic-value based perspective under Pillar 2. Another related opinion was that it is important to facilitate insurers to utilize key performance indicators (KPIs) that are more consistent with an economic value-based approach. From that standpoint, it was argued that the fundamental profit could be revised to better reflect insurers' economic reality, which could contribute to the enhancement of insurers' capability to control ESR.

There were several other comments on the importance of conducting assessments from multiple perspectives regardless of the regulatory requirements, for instance through the utilization of open-block analyses (i.e. reflecting acquisition of new businesses in the future) to assess the validity of investment and product strategies, and further enhancement and utilization of stress testing.

It is important for the JFSA to engage in dialogue with insurers based on their ORSA reports and hearings on ERM framework, to understand each insurer's risk profile and quantitative and qualitative risks that cannot be captured by Pillar 1, taking into account the abovementioned perspectives.

6. Pillar 3

Upon the transition to the new ESR-based framework, the ongoing disclosure based on the current SMR could be updated to incorporate economic-value based perspectives, making it consistent with Pillar 1 and 2. While the disclosure would focus mainly on insurers' financial soundness, information on the economic value of insurers' net assets could also be valuable from the perspective of profitability and enterprise value. The transition to economic value-based Pillar 3 could improve the quality of disclosure on insurers' risk, return and capital, which is expected to enhance discipline and governance over insurers through dialogue between insurers and external stakeholders.

It is also important to ensure flexible disclosure requirements that reflect the size and

characteristics of insurers, and to design a framework that could cater to the needs of information users with different backgrounds and objectives. One of the members pointed out the potential burden for insurers when generating certain types of information for disclosure while ensuring its accuracy, given that multiple calculations using different assumptions might be required in some cases. The framework needs to be designed in an effective and well-balanced manner, considering these points.

The details of Pillar 3 may not be fixed until the specifics of Pillar 1 are clarified. In this regard, some members of the Council suggested the need for a preparatory phase, as insurers may need to improve their capacity (e.g. IT infrastructure) to comply with new Pillar 3 requirements. A pragmatic approach would be to lay out the basic framework and key concepts of Pillar 3 by around 2022, and proceed with the finalization of the details thereafter.[51] In developing the framework, the perspectives of the external stakeholders (potential users of the disclosed information), in addition to those from the industry, should also be incorporated as inputs.

1) Disclosure intended for market participants

For market participants, including investors and financial institutions (counterparties of financial transactions), the granularity, consistency and comparability of the disclosed information will be important.

There are several practices of economic value-based information disclosure, such as voluntary disclosure of EV reports by insurers based on the EEV and MCEV principles, and the Solvency and Financial Condition Reports (SFCR) under Solvency II. The menu of disclosure under Pillar 3 could be developed, using these prior examples as a reference.

It appears that many European insurers have ceased to publish EV reports and integrated the information into SFCR, following the introduction of Solvency II. Considering that a similar trend could arise in Japan as well in the future, some members of the Council discussed how the new disclosure requirements should cover sufficient quantitative and qualitative grounds to meet the needs from market participants, so that it does not regress from the contents of existing EV reports.

With respect to the specifics of disclosure, the basic items would include the level of ESR, the breakdown of the required capital and the composition of eligible capital. In addition, some members of the Council noted that information on senilities are of particular importance, which should include details such as sensitivities to each risk factor (interest rate, stock price, etc.). In addition, it was suggested that the analysis of movement between the beginning and the end of the period sheds light on the insurers' capital

[51] It should be noted that there could be some overlap between the disclosure requirements under Pillar 3 and the reporting requirements under Pillar 2.

generation process (which is discussed in 2) of Section 5), and thus its disclosure within Pillar 3 (in line with the design of Pillar 1 to ensure a certain degree of comparability) would be important. The possibility of expanding disclosure of other items was also mentioned, including the difference between the results from the standardized model and the internal models when the latter is used for Pillar 1, as well as the information related to insurance liabilities (e.g. information on durations).

There are many different options as to the specifics of disclosure, for instance on the choice of risk factors and stress levels for sensitivity analyses,[52] and the granularity of the analyses of movement. Considering this, some of the members of the Council suggested that it would be beneficial to standardize the format and the items. Further study needs to be conducted on the design of these issues, keeping in mind the distinction between the minimum disclosure that should be required for all the insurers by regulation, and the voluntary disclosure where insurers' spontaneous efforts and convergence in the practices are encouraged.

2) Disclosure intended for consumers

The priorities for consumers would be the insurance products themselves, including the product design and appropriate explanation at the point of sale. The objective of Pillar 3 would be to signal broadly whether an insurer is financially sound enough to secure payment of insurance benefits in the future.

Considering this, the disclosure for consumers could put more emphasis on the presentation and clarity rather than the granularity of the information, for example by focusing on the most important items and present them in a simple manner.

As a precondition for this, it is important to promote understanding and raise awareness of the implication of ESR and the difference from the current SMR when transitioning to the economic value-based regulation,[53] which both the JFSA and the industry should keep in mind.

It was also mentioned within the Council that reputational risks on insurers may arise when ESR falls sharply due to the drop in the interest rates and the stock prices. To deal with it, as discussed in the Council, it is important for insurers to disclose and communicate beforehand the assumptions on the future risk scenarios, how they control

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[52] In particular, the sensitivity to interest rates may vary significantly depending on the approaches taken, e.g. whether the lower bound of the interest rates is set and stresses are applied to the UFR.

[53] As a part of the efforts to promote understanding of the new framework, industry associations could compile reference materials, in a similar manner as "Disclosure by Life Insurance Companies—Collection of Tips" (the Life Insurance Association of Japan), and the "Guidebook on the Disclosure of General Insurance Companies" (the General Insurance Association of Japan).

the risks and how to recover from stresses, while also enhancing their risk management to better control the volatility of ESR.

7. Making a smooth transition to the new framework

The economic value-based prudential policy discussed above includes a variety of technical components. In addition, it is a principle-based framework with some room for professional judgment. For this new framework to function effectively, the JFSA, the industry and external stakeholders need to share a common understanding of the objectives and details of the framework. It could contribute to creating a virtuous cycle, where communication and dialogue with each other facilitates further improvements.

As the first step to that end, it is important for the JFSA and the industry, in particular, to secure resources and capacity necessary for the new framework in a forward-looking manner, while developing the framework towards implementation in 2025. Given the timeline, it is necessary for all relevant parties to work in a collaborative manner during the preparatory phase to make a smooth transition.

1) Developing insurers' capacity and raising awareness among external stakeholders

To promote forward-looking capacity building of insurers and raise awareness of the objectives and details of the framework among external stakeholders, the JFSA should provide sufficient information on the status and direction of the preparatory work in coming years. For example, while the results of domestic FTs published so far have focused on aggregate quantitative information, it could be expanded to include announcements on the current status and the direction of the specifications and remaining issues of the framework (including the treatment of internal models and the validation framework of insurance liabilities). The JFSA should also examine obstacles to a smooth transition to the new framework via engaging in dialogue with external stakeholders.

2) Dialogue between the JFSA and insurers

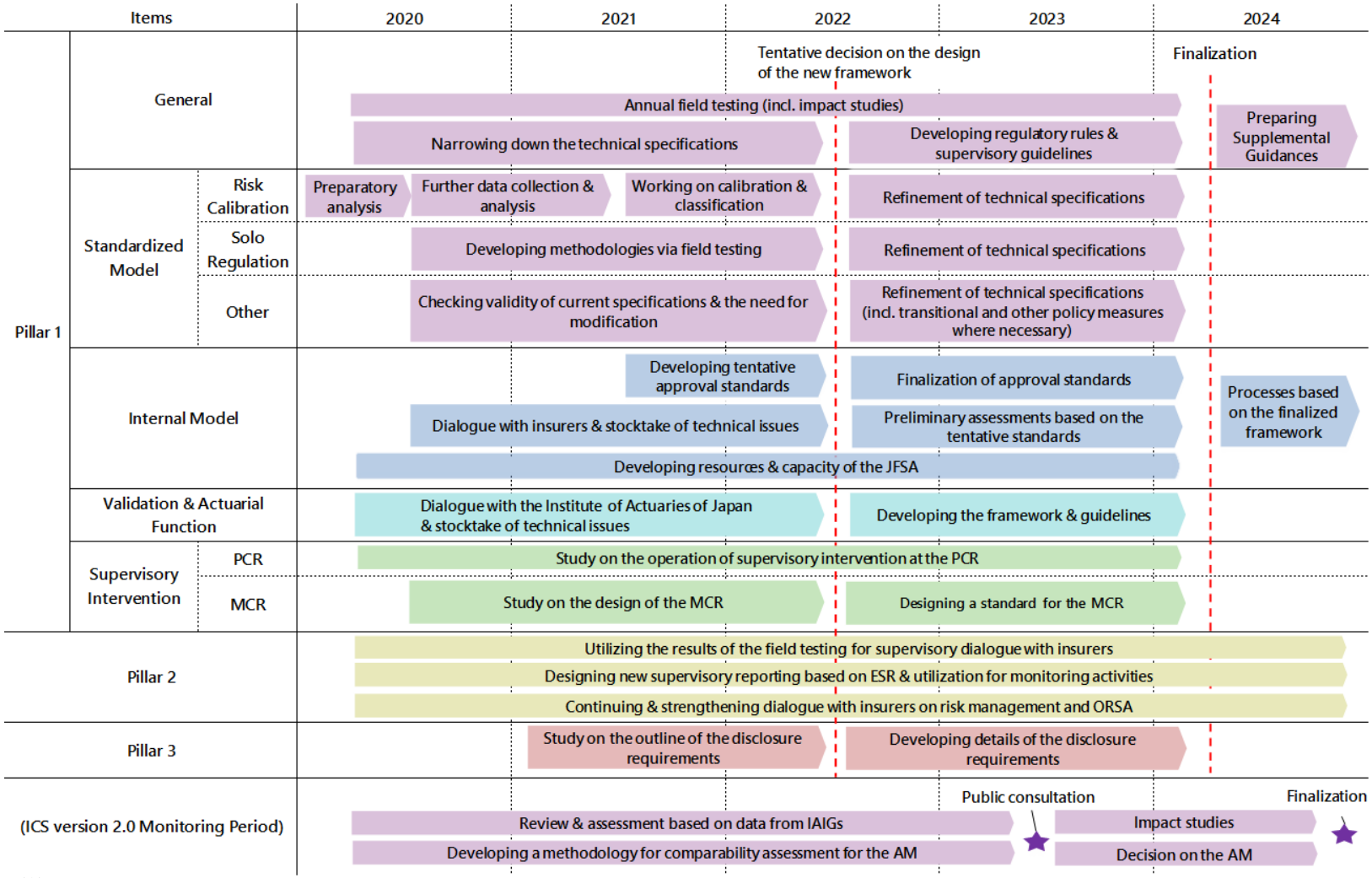
Many members of the Council pointed out the need for insurers to strengthen their resources and governance, including for the capability to control ESR and to calculate and validate insurance liabilities (as discussed in Section 4-3), when ESR is formally introduced as a solvency regulation and a disclosure requirement. This may be true even for insurers that already use economic value-based internal models and EVs. The JFSA should monitor insurers' preparedness through domestic FTs and ORSA reports, and engage with players that are lagging behind, to facilitate a smooth transition.

At this point, both the economic value-based indicators and those based on the existing regulations and accounting rules (including the SMR, the net real asset and the fundamental profit) are utilized in insurers' risk management. To promote risk management that focuses more on the economic value-based approach, the JFSA could hold dialogue with insurers on their investment and insurance product strategies in anticipation of the new regime, while studying the role of the existing indicators in risk management and the potential impact of revising them.[54] The findings from these activities could also be utilized in assessing the impact of the new framework on insurers' business behavior.

In addition to working on designing the new framework, the JFSA also needs to prepare for the new framework, while bearing in mind the qualitative and quantitative resources/capacity needs with respect to the approval process of internal models under Pillar 1, and various supervisory assessments and dialogue with insurers under Pillar 2.

[54] Another opinion expressed was that we should think about the treatment of the current SMR during the preparatory phase, as the SMR and the accounting rules may function as constraints on insurers' capacity development and adjustment of investment and product strategies towards the new framework.

(Figure 5) Proposed timeline towards the introduction of the new framework



※ It is assumed that the new framework will be put into effect in 2025 and that calculation based on the new standard will start in the fiscal year ending March 31, 2026.