



PLAC Network

NETWORK FOR PENSIONS IN
LATIN AMERICA AND THE CARIBBEAN

Technical Assistance Document Series

1

EVALUATION OF UPDATES TO THE RISK-BASED SUPERVISION MODEL OF THE SUPERINTENDENCE OF PENSIONS IN CHILE

John Ashcroft

Copyright © [2017] Inter-American Development Bank. This work is licensed under a Creative Commons IGO 3.0 Attribution-NonCommercial-NoDerivatives (CC-IGO BY-NC-ND 3.0 IGO) license (<http://creativecommons.org/licenses/by-nc-nd/3.0/igo/legalcode>) and may be reproduced with attribution to the IDB and for any non-commercial purpose. No derivative work is allowed.

Any dispute related to the use of the works of the IDB that cannot be settled amicably shall be submitted to arbitration pursuant to the UNCITRAL rules. The use of the IDB's name for any purpose other than for attribution, and the use of IDB's logo shall be subject to a separate written license agreement between the IDB and the user and is not authorized as part of this CC-IGO license.

Note that link provided above includes additional terms and conditions of the license.

The opinions expressed in this publication are those of the authors and do not necessarily reflect the views of the Inter-American Development Bank, its Board of Directors, or the countries they represent.



Foreword

The Labor Markets Division of the Inter-American Development Bank (IDB) supports countries in Latin America and the Caribbean in building stronger pension systems by seeking to increase their coverage (support for the vast majority of the population in old age), sufficiency (pension benefits that facilitate a dignified life in old age) and sustainability (pension benefits financed in the present and in the future). To advance these objectives, in 2015, the IDB created the Network for Pensions in Latin America and the Caribbean (PLAC Network), a regional public good that serves as a platform for dialogue and learning among pension institutions and experts. It is one of the mechanisms through which the IDB supports the efforts of countries in the region to improve the institutional and technical capacity of their pension entities.

The PLAC Network funds many activities aimed at helping the region's pension institutions learn best practices from other countries not only within Latin America and the Caribbean, but also worldwide. In this context, during the period 2016-2017, the PLAC Network held three calls for proposals on technical assistance for its members. As a result, the Network supported 13 countries through nine technical assistance projects in areas such as pension supervision and regulation, coverage, financial sustainability, and non-contributory pillars. As a result of this effort, we have created the **PLAC Network Technical Assistance Document Series**.

This first document, entitled **“Evaluation of Updates to the Risk-Based Supervision Model of the Superintendence of Pensions in Chile”** provides a commentary on the actions taken by the Superintendence of Pensions in response to the original advisory report on the application of risk-based supervision, which was formally delivered in December 2016. This revised version of the report also takes into account discussions with managers and staff from the Superintendence of Pensions during a series of presentations and training workshops held in Santiago de Chile during the week of 12-16 June 2017.

This document is the result of the technical assistance funds assigned to Chile in May 2017. It was prepared by John Ashcroft (external consultant), whose work was supervised by Carolina Cabrita Felix, consultant of the Labor Markets Division of the IDB and coordinator of the PLAC Network, and Waldo Tapia, lead specialist of the Labor Markets Division of the IDB and team leader of the PLAC Network. We also invite you to review the other documents in this series.

PLAC Network Team

Please direct **any comments or inquiries about this publication** to the PLAC Network team

redplac@iadb.org



Table of contents

Foreword	3
1▶ Introduction and executive summary	6
2▶ Overview of the risk model	9
3▶ Objectives	11
4▶ Risk definition and treatment of inherent risks	13
4.1▶ System risk landscape	13
4.2▶ The revised architecture of risk	15
4.3▶ Revised inherent risk factor definitions	16
4.4▶ Criteria for assessing inherent risks	19
4.5▶ Risk committee and support	20
4.6▶ Summary of conclusions on the proposed changes to inherent risks	21
5▶ Risk-based assessment of entity risk mitigation	22
5.1▶ Summary of risk assessment (RER) matrices	22
5.2▶ Process descriptions	24
5.3▶ Populating the RER	26
5.4▶ Mechanics of control assessment	28
5.5▶ Transversal evaluations	30
5.6▶ Summary of conclusions regarding residual risk assessment	32
6▶ Promoting governance and risk management	33
6.1▶ Structure of the guide	33
6.2▶ Transversal evaluation guidance	34
6.3▶ Guidance on specific risks	36
6.4▶ Summary of conclusions on the new guidance document	36
7▶ Assessing investment governance and using quantitative investment techniques	37
8▶ Proportionality of immediate supervisory response	40



1▶ Introduction and executive summary

This report provides commentary on the actions taken by the Superintendence of Pensions (SP) in response to the original advisory report on the application of risk-based supervision, which was formally delivered in December 2016. With regard to the conclusions and recommendations in that report, the SP has been making some changes to its methodology. These are reflected in two drafts of public documents that have been provided: an annex to the “*Risk-Based Supervision (RBS) Model of the Superintendence of Pensions*” and the guidance note (Book V, Title XIV) “*Instructions on Risk Management in the Pension Funds Administrators*.”

This report evaluates these documents within the context of the earlier recommendations. This revised version of the report also takes into account discussions with SP managers and staff during a series of presentations and training workshops held in Santiago de Chile during the week of 12-16 June 2017. The author is very grateful for the financial support provided by the IDB and the cooperation of the superintendent and his colleagues.

The evaluation report is ordered under the following headings, which reflect the terms of reference for the evaluation and those used in the original report, as follows:

- Overview of the risk model
- Objectives
- Inherent risks
- Risk based assessment of entity risk mitigation (RER matrices)
- Promoting governance and risk management (guidance note)
- Assessing investment governance and using quantitative investment techniques
- Proportionate supervisory response

In summary, the report’s main points are as follows:

- The **risk annex’s structure** covers all types of information that need to be communicated regarding the SP’s supervisory methodology. The explanation of the risk model could distinguish more clearly the overall methodology from that involving the assessment of entity risk mitigation. In particular, it should cover inherent risk before turning to the details of the assessment methodology. It needs to explain that, whereas inherent risks relate to outcomes, the net risk relates to business processes, and it should provide sufficient detail to enable a conceptual understanding of how net risk is determined and used, including for supervisory response. Table 1 could benefit from some clarifying expansion, as suggested in this report.
- The SP has a clear revised framework of **objectives** that, if further elaborated, would respond fully to the original recommendation.



- The very substantial revision of the **SP's risk model and inherent risks** adds complexity but enables an appropriate focus on outcomes, processes and cross-entity (transversal) mitigations responding to the concerns previously raised. More attention needs to be given to the definition and calibration of inherent risk factors, which might result in the merger or subdivision of some factors. Although inherent risk factors are usually standard for all pension funds administrators (AFPs), there may, in due course, be scope for reducing the level of one or more factors for some AFPs where there is evidence to support such a move. In any event, the relevance of risk factors to processes will vary.
- Given the complexity, there is a strong case for a high-level **risk committee** with a supporting team to make collegiate decisions on the design and population of the risk model. This committee could also be responsible for the necessary overview of all risks in the landscape, including system risks. Although the SP already seeks to mitigate system risks where it can, greater transparency regarding its overall risk assessment and key mitigation actions would be desirable, for instance, through the published annual report.
- The **RER matrices** should, with associated developments in process, address the recommendations made previously. There is still more work to do in terms of refining process descriptions, scoring systems, the population of the RER matrix and the guidance to staff on assessment of the various forms of mitigation, the criteria to be used and sources of evidence. The risk committee can lead on many of these decisions. When it comes to assessing the significance of specific failures found off-site or on-site, one or more lower-level “triage” committees could be valuable in applying a standard conceptual model to determining significance. Implementation should also include further development of a governance interview methodology, which could be mentioned briefly in the risk model annex. Compliance inspection would be better represented, both in a risk-based way internally and in the annex, as seeking assurance on controls and administration by testing whether their application has ensured legal compliance, for processes with high inherent risk factors.
- The SP has made a very good start in preparing an extensive **principles and guidance on risk management document** which covers most of the factors that the SP will wish to assess at supervised entities. Some reordering might help align the document with the risk model, including separate sections for high-level governance, internal audits and IT management. It would also assist alignment and facilitate assessment if the specificity of the guidance on managing the eight risks in the risk model were strengthened and drafted in parallel with the assessment criteria for the risk model, preferably by the same teams. The next stages are to agree on the principles and guidance document with supervised entities and to convert the content into assessment criteria within the SP's operational manual.
- Evaluating how strategic **investment risks** fit within the new model and guidance shows that the risk model and guidance could readily be modified to ensure that the risks relating to investment strategy are assessed. It would be good if the model and guidance were modified in this way from quantitative limits would, in part, be contingent upon ensuring that AFPs have an acceptable investment strategy process (and strategies). The SP needs to focus on encouraging best practice investment governance, including well-informed strategies and the use of benchmark portfolios, especially with the herd leaders. The analyses it undertakes could be developed further to provide risk indicators to inform the supervision process.



- The redesign of the risk model, once completed, should provide a robust means of determining the level of **proportionate supervisory response**. More guidance within the risk annex and powers may still be needed for a defensible methodology that proportionately aligns supervisory response with risk assessments to enable effective intervention where serious problems are found. For lesser problems, the SP could seek to make greater use of incentives for good performance, under-pinned by the net risk scores. Regulatory change may be most effective in addressing market conduct issues through enhanced powers and changes to market dynamics.



2 ► Overview of the risk model

Although the remainder of the report focuses on the content of the documents and their application, this section considers their format and structure. In essence, an RBS methodology needs to unpack the underlying formula of “*Residual risk = f{Inherent risk – assessment of mitigating actions}*.” The draft guidance document sets out the mitigating actions expected of AFPs and should do this in a way that can also be used for the SP’s assessment purposes. The section of this report on promoting governance and risk management considers how well it achieves this goal. In brief, it is clearly correct to have one document that covers what entities should do and another document that describes how their actions will be assessed.

With mitigating actions being covered within the guide, the RBS methodology model annex needs to cover the rest of the terms in the formula:

- The definition and structuring of inherent risks to the SP’s objectives that form the pension system risk landscape, which requires a view of the SP’s objectives.
- The formula for combining inherent risk and mitigating action assessments with a residual risk assessment
- What the SP does with the residual risk assessment

The RBS model annex covers all of these elements of the methodology, although the SP agrees that it could be clearer for this purpose. The annex starts with the SP’s objectives (see the next section). It then summarises RBS. Paragraph 7 is the core of the summary, but it is overly concise and needs at least to refer to the SP’s implementation strategies to ensure that inherent risks in the system are reduced to a tolerable level. It should be clear that the RBS of entities assesses the extent to which the entities have mitigated the risks through their governance and risk management. This refers to supervisory responses in terms of prioritisation, but it should also refer to actions designed to secure effective remedial action including the use of powers. In essence, this section should place entity-specific assessments within the broader context. In fact, most of the omissions would be remedied if Paragraphs 10 and 11 were brought up into this section and combined with Paragraph 7.

The next section on the main elements of RBS is largely focused on the key elements of entity-specific risk mitigation assessment (except for the more general Paragraphs 10 and 11 referenced above). It might be better to focus on entity-specific supervision in title as well as in content. In any event, it provides a good description, although a cross-reference to the guidance note (Book V, Title XIV) would improve it.

Table 1 provides good framing for the supervision cycle. It sets out a six-stage supervision process starting with the strategic overview, then running through entity-specific supervision planning, the deployment of supervision activities, documentation and drawing of conclusions of supervision activities, communication of supervisory response and follow-up to supervision (completing the cycle). A supervision cycle diagram might be worthwhile at this point. This table has a logical flow that captures the essence of a good practice for supervision processes. Some expansion of the stages as follows might be desirable:



- Stage 1 could encompass strategy formulation as well as analysis. It should also explicitly encompass the assessment of inherent risk. Within this stage or the next should also be included communication of guidance on the SP's expectations for supervised entities.
- Stage 2 might refer to the prioritisation of activities and resources, as well as scheduling and planning.
- The results of Stage 3 could also include identification of inadequate risk mitigation activities and compliance failures.
- Stage 4 might clarify that this is the preparation of the draft report and that 6 is decision-making on the nature of supervisory response (of which fines should be just one option).
- Stage 5 could be clarified by referring to the presentation of and consultation on the supervision report, and implementation of supervisory response (fines, etc.).
- The results of Stage 6 might also include identification of systemic issues for higher-level attention.

The risk model then plunges into the fine details of the summary of risk assessment (RER) matrices. These would be better left until after the section on inherent risk, which starts immediately after Paragraph 18, which contains the fundamental equation linking residual and inherent risk. Preferably, it should start with that equation. It then refers to the risks being those associated with key business processes. This is no longer the case, as the risks cross-cut business processes. It would be better to cover business processes in one place later and just focus on the risks, which are actually associated with different types of negative outcome and their causes, and which are considered later in the section of this report on inherent risks below.

The section on risk management assessment is the appropriate place to introduce the risk assessment matrices, followed by explanations and definitions of the business processes and transversal evaluations. It should say more on the assessment of transversal valuations (see below in this report). It must be explained up front, however, that the ultimate assessments for entities, which will form the basis of supervisory responses, are the residual risks for each business process, taking into account the inherent risks associated with the processes, although the SP will also monitor the level of inherent risks across the system.

Finally, there is a section on net risk. This could provide more detail on how all factors in the assessment matrices combine to give the net risk for each business process more effectively than the annex does, but without constraining the SP's freedom of action. It then properly addresses supervisory response, although more detail might be needed here on how the gravity of the net risk affects the types of supervisory response to be considered.

In summary, the risk annex covers all the types of information that need to be communicated regarding the SP's supervisory methodology. The explanation of the risk model could distinguish more clearly the overall methodology from that involving the assessment of entity risk mitigation. In particular, it should cover inherent risk before turning to the details of the assessment methodology. It needs to explain that, whereas inherent risks relate to outcomes, net risk relates to business processes, and it should provide sufficient detail to enable a conceptual understanding regarding how net risk is determined and used, including for supervisory responses. Table 1 could benefit from some clarification, as suggested in this report.



3► Objectives

The original report concluded that the SP had a clear vision, mission and goals statement, with some relevant supporting objectives aligned with pension and unemployment benefit system outcomes. It noted that some enhancement would be possible, so the SP should consider developing shorter-term (1-3 year) objectives that articulate how it seeks to achieve beneficial change through regulatory and supervisory activity, which encompass communication with the public and affiliates.

The annex restates the SP's vision, mission and objectives. The vision is restated as *“sustainably watching over for the correct functioning and improvement of the pension system and the unemployment insurance, in order to provide a better quality of life for the public.”* This is more clearly focused on the SP's role within the pension system. The mission is restated as being *“to defend, protect, and safeguard the interests of the users of the pension system and the unemployment insurance, ensuring the compliance of regulations of the supervised entities, recommending continuous improvements, informing and educating the public, in order to satisfy their needs in this area and to improve their quality of life.”* From this, it is clear that the SP focuses on regulatory compliance, improvement and communication with the public. The reformulated strategic objectives that reflect the vision and mission are as follows:

- a. To provide quality care to the public, developing an organisation oriented to the needs of the users of the pension system and the unemployment insurance with a team of excellence.
- b. To contribute to the improvement of the pension system and the unemployment insurance by optimising and/or improving enforcement and regulation of the supervised institutions.
- c. To improve the decision-making of the users by generating and promoting a culture of social welfare through the delivery of clear and timely information and education in social security issues.
- d. To contribute to the correct functioning of the pension system and unemployment insurance through the generation and management of comprehensive, consistent and reliable information.

The first of these objectives relates to developing the quality of the SP itself, whereas the third and fourth seek to establish the SP as reliable provider of education and information for the good of the overall system. This makes it clear that entity supervision is just a part of the work of the SP. The second objective indicates that the SP's supervision goal is targeted system improvement aimed at ensuring the quality and timeliness of benefits, the quality and timeliness of information and service delivery to the user, good returns and safety of the funds. This is a strong emphasis that makes it clear that supervision is primarily preventive. It is also appropriately clear that regulation and supervision are interchangeable tools.



These objectives should suffice to provide high-level objectives for the various departments within the SP, which could then disaggregate to more specific objectives for the teams. It would be a good practice for the SP to implement measures of the desired outcomes, which could be something like the following¹:

- Perception-based feedback from users of the SP services and recipients of SP supervisory activities (probably two exercises)
- A measure of the timeliness and quality of benefits delivered (from off-site surveillance)
- Affiliate feedback on information provided to them by AFPs and the SP
- The level of net real returns delivered by pension funds compared with benchmarks appropriate to the various fund types
- A measure of avoidable losses to affiliate accounts
- A survey of public awareness and understanding of the pension system

Once a baseline is established, there might be merit in setting targets for improvement against most of these measures. **In summary, the SP has a clear revised framework of objectives, which, if further elaborated, would fully respond to the original recommendation.**

1. The measures could, at least in part, be derived from the key measures used in the assessment of the eight key risks at supervised entities covered in the next section of this report.



4 ► Risk definition and treatment of inherent risks

Turning to the inherent risks of the SP's objectives, the original report concluded that the framework of risks used by the SP was generally comprehensive, with a commendable focus on entity governance and risk management, although this was lighter than ideal in several respects. However, the absence of a rigorous risk landscape analysis to support judgements on criticality and inherent risk meant that it lacked rigor. Consequently, there are the following recommendations:

Revise the list of sub-risk areas, providing clear two-dimensional definitions to translate them into risks and improving granularity where appropriate, such as relating to benefits payment and market conduct. The way these sub-risks are aggregated into risk areas should also be revisited to make them more homogenous – for instance, by establishing separate risk areas for benefit payments, market conduct and entity solvency and reputational risk².

Undertake a risk landscape exercise, repeated at least every three years, using a 3 × 3 (or 4 × 3) risk matrix so that the position on the matrix can be translated into inherent risk and criticality levels as a key input to the risk assessment methodology. In addition, integrate a non-entity-specific systemic risks more clearly into the overall approach.

As part of annual corporate planning, identify any risk areas where residual risk is too high and articulate the risk mitigation strategies being adopted, utilising the most effective tools (not defaulting to regulation or enhanced supervision). Some strategies for risk areas with tolerable residual risk would also be beneficial.

Consider how the risk strategy process should inform decisions on resource allocation within the SP, and periodically publishing the strategy to demonstrate the SP's risk focus to stakeholders.

Formally make the high-level risk committee responsible for making decisions or advising the superintendent on decisions regarding risk identification and definition, the system risk landscape, risk mitigation strategies and the overall risk assessment methodology, supported by a dedicated team.

4.1 ► System risk landscape

The risk annex is understandably not explicit about any system risk landscape exercise that has been undertaken. Such an exercise should be the starting point for the design and review of the methodology. It should identify risks at entities, as the SP has done, and is considered in the following subsections of this report. It should also encompass risks that are not subject to entity-level mitigation.

2. Reordering the content of risk areas might facilitate the undertaking of some of the system risk analyses in risk areas rather than at the sub-risk level to simplify the process.



One way of identifying all the risks in the system is to use the **Outcome Based Assessment Framework** developed under the auspices of the World Bank³. This starts from the five desired outcomes of a funded pension system, defined as follows: coverage, adequacy, sustainability, efficiency and security. For each of these, it defines several features representing factors that may, on the basis of international standards, research evidence, or expert experience, contribute to the achievement of the outcomes. These features can be converted into risks by considering how deficiencies regarding these features cause of a risk of underachievement of the outcome from a risk mitigation perspective. Not all of the identified features are relevant to a mandatory defined contribution (DC) system. In this evaluation report, those that can be mitigated at the entity level are included in Figure 1 below, while those mitigated at the system level can be outlined as follows:

- Coverage: Avoidance of mandatory duty to join the system
- Coverage: Informality of employment
- Coverage: Voluntary saving is unattractive or underutilized
- Adequacy: Underdeclaration of salary by employer
- Adequacy: Insufficient contributions for the expected pension level
- Sustainability: Political factors (interference, policy reverses, affordability to public finances)
- Sustainability: Lack of public understanding or negative perceptions
- Sustainability: Insufficient or unprofitable AFPs or custodians
- Efficiency: Excessive AFP charges (explicit)
- Efficiency: Excessive liquidity needed due to affiliate churn
- Efficiency: Purchase of unsuitable retirement products
- Security: Problems where AFP liquidated
- Security: Failure of custodian or sub-custodian, making affiliate assets cannot be recovered
- Security: Insolvency of annuity providers

Although much of the focus of supervision is on entity specific risks, these system risks should not be forgotten. However, not all of them are directly relevant to the SP. For instance, some fall to other governmental agencies such as the tax authority or insurance supervisor. For others, the SP can only seek to influence through the political process or public education. From conversations during the most recent and early visits to the SP, it is clear that the SP seeks to address these risks where it can.

In mapping risks on the landscape, some entity-specific risks may need to be dis-aggregated where there are several impacts with significantly different probabilities. For instance, the impact of most operational and IT

3. "Price, William; Ashcroft, John; Hafeman, Michael. 2016. *Outcome Based Assessments for Private Pensions: A Handbook*. World Bank, Washington, DC. © World Bank



failures is not so great, even though they are inherently quite likely. However, a major IT failure or fraud would have a very high impact, but a low probability.

The annex is not expected to give details on the SP's risk and strategy overview process, but hopefully such a process will be in place. The SP should, perhaps in its annual report or corporate plan, provide information on which risks are causing it the most concern and its strategic response. Of course, this may be its intention.

4.2 ► The revised risk architecture

The revision of the risk model is quite substantial. This can be best appreciated by considering the three ways in which pension system risks are defined by pension supervisors worldwide:

- Starting with specific negative consequences that impact outcomes and considering how each entity activity or process contributes to or mitigates these
- Starting with underlying risk mitigation methods (e.g. governance) and considering the likelihood and consequences of each failing
- Starting with the different activities and processes in the pension system and considering what could go wrong and with what negative consequences

The previous model focused on the second of these (i.e. mitigation methods). In essence, the revised model seeks to measure residual net risk as it relates to activities and processes. To facilitate this assessment, it considers eight outcome-related risks (inherent risk factors) and four transversal risk mitigation methods (evaluations). Hence, risk is defined in three ways for different purposes. This need not matter so long as the definitions are clear and the way the differing perspectives on risk fit together is explained clearly in the annex. It should be noted that the architecture resembles the Canadian model popularised by the Toronto Centre. This model was originally designed to assess a relatively large number of defined benefit (DB) pension plans (and, indeed, insurance companies) where there are few quantifiable risk factors. Mandatory DC systems are inherently more complex with hard-to-quantify reputational impacts to consider. Hence, they add some complexity to the model.

Much of the rest of the evaluation report further considers these three perspectives, how the risks involved are defined and assessed and how the assessments are combined within the model starting with the inherent risk factors.

A major change from the earlier methodology is that the revised risk model methodology no longer treats governance, in its broadest sense, as several risks, but instead as several mitigations for transversal evaluation, along with IT infrastructure management. For the methodology to work, the SP will need to derive an overall score for each entity for each of the three components of governance (high level, risk management and internal audit). Having discrete assessments for these could provide additional risks in the system risk matrix, even if the assessment of impact would be somewhat judgmental. This would enable the SP's model to treat governance as both a risk and mitigation.



4.3 ▶ Revised inherent risk factor definitions

Because the entity-specific risks the model is intended to actually evaluate relate to processes, to avoid confusion, this report refers to the outcome-focused inherent risks as risk factors. The revised risk model annex defines eight such risk factors:

- Credit risk
- Market risk
- Liquidity risk
- Fiduciary risk
- Operational and technological risk
- Strategic and reputation risk
- Legal and regulatory risk
- Market behaviour risk

Each risk factor has, as recommended, been defined in terms of the two dimensions of the consequence and the event. In some cases, there could be more clarity about the causative events, whereas in others, the consequence, or impact, might repay a broader definition. The SP should recognise that potential reputational consequences relating to risks other than the sixth could be made explicit. Taken together, the risks appear to encompass all the risks in the system that can be mitigated at the entity level, subject to the following observations regarding the definitions in Paragraph 21 of the risk model.

- **Credit risk** could usefully refer to inadequate diversification as being a factor that could increase the financial and reputational impact of the events of described. There is a question as to whether counter-party risk should be separate, as the impacts could be different and more intense, although the mitigation is similar to other forms of credit risk. It is also the case that, whereas counter-party risk should be minimised, the most important mitigation method for credit risk is to keep exposure within the limits appropriate to each multi-fund and ensure that the credit risk taken is justified by the additional return generated by taking the risk. Hence, it should be measured relative to plan and return.
- **Market risk** could refer to the impact being particularly serious where affiliates are close to retirement, although there can also be some impact when an affiliate is moved between multi-funds. This is another risk measured relative to each multi-fund's risk tolerance and return. In addition, there is the possibility of long term negative movements in markets, such as where there is a market "bubble," although this possibility might alternatively be included within credit or fiduciary risk. The approach chosen should be made clear.
- **Liquidity risk** is most relevant where there are outflows from a fund that cannot be funded by transferring assets between funds. Hence, the impact is increased by transfers between AFPs, which may not be readily planned for in the way that other liquidity demands, such as age-related transfers and asset purchases can. Perhaps this relationship with market dynamics needs to be an explicit element in the definition. Because the primary source of liquidity risk is being forced to sell when the market is down, there would be a case



for combining liquidity and market risks. The impact of liquidity risk (on the fund and, hence, all remaining affiliates in the fund) differs from that of market risk (on the affiliate who is moving fund) but the causes and management of the two risks are similar. For instance, if a group of affiliates is persuaded to transfer from one AFP to another, they can suffer from market risk (which could be seen as their “fault”), whereas the remaining affiliates are exposed to a liquidity risk, with the scale of both risks depending on market volatility.

- It is good to see **fiduciary risk** included. Although the definition is potentially broad enough to encompass the risk of poor investment strategy resulting from various forms of conflict of interest, the guidance under this heading in Book V, Title XIV relates mainly to the fiduciary duties of investment staff (i.e. tactical decisions). In practice, the biggest potential fiduciary failure is the failure to develop an optimal investment strategy and strategic asset allocation for each of the multi-funds that reflects the age (duration) characteristics of the affiliates concerned, and hence their implied risk tolerance. Poor strategic decisions could be made to reduce costs to the AFP, respond to short-term competitive pressures or simply due to board disinterest. These in particular could cause funds for younger cohorts of affiliates to be over-conservatively invested with excessive liquidity – which is probably better included here than under insufficient liquidity risk. There is also a question as to whether excessive costs and charges come under this risk. They might generally be better under strategic or reputation based investment implementation strategies that are perhaps excessively costly. For instance, excessive churn for the primary benefit of the brokers might belong here. Alternatively, there could be a special definition of strategic or reputation based risk that applies to investment operations that lose affiliates’ money due to excessive costs.
- Reputational impact is not included under **operational and technological risk** even though loss of affiliate confidence is one of the major negative consequences of operational risk (given that AFPs are responsible for remedying operational failures and, hence, bear the financial impact so long as errors are corrected). Although there is a case for considering that operational failures that are so serious as to damage public confidence probably arise from strategic decisions or neglect, which could be covered under strategic and reputational risk, it is not obvious that financial or informational impacts on affiliates can be isolated from the consequent reputational damage. Hence, it would be better to include reputational impact within this risk definition⁴. There is also a conceptual problem in distinguishing this risk from the IT infrastructure management transversal mitigation, which the annex might need to explain. One way of doing this would be to say that the risk is the impact on affiliate benefits or confidence of failing to deliver an IT-enabled operational service, while the transversal mitigation refers to the processes for enabling system outputs to be delivered even though the IT has failed or of preventing such failure.
- **Legal and regulatory risk** is presumably so named for consistency with standard financial services risk terminology. In plain language, it appears actually to be the risk of poor service to affiliates and especially beneficiaries. Given that payments to beneficiaries are specified in regulations, paying incorrect benefits is a legal and regulatory risk. Indeed all significant aspects of poor quality of service may result in regulatory breaches. So, the title chosen is not wrong, just potentially misleading. In addition to the potential financial

4. In one of the exercises during the training workshops, at least one team was explicit about reputational impact being a major consequence of operational failure.



consequences for beneficiaries where the risk materialises, there could be reputational consequences, which should be mentioned. Other types of process might be covered, but perhaps only where failures cause serious legal or regulatory breaches that could cause legal sanctions against, and hence reputational harm to, an AFP.

- **Strategic and reputation risk** needs careful definition to avoid its lapsing into a catch-all or overlapping with the assessment of governance (which should include the quality of decision-making and oversight of entity strategies). Eliminating all overlaps appears to mostly reduce risks to the viability of the AFP, which primarily results in reputational consequences and could arise from a poor commercial strategy. The risk could extend to overcharging by AFPs, as this may well be connected with excessive costs and, hence, the entity's strategy and viability. To avoid this risk's becoming a catch-all, the SP might wish to limit the association of this risk with the activities that are the main cost drivers of entities, such as investment implementation and sales or marketing. On the other hand, the risk of activities being under-resourced to the detriment of their reputation could also be included.
- **Market behaviour risk** also has potential reputational consequences from mis-selling and other forms of market abuse.

There is a question as to whether some of these risks, particularly 5, 6 and 7, should be subdivided to make them easier to assess. For instance, the impact of a failure in delivering timely and accurate benefit payment services is much greater than the impact of late delivery of information to affiliates, and those two risks can be assessed separately. Alternatively, however, the different impacts might just result in different assessments of the relevance to processes, in which case, as suggested above, market and liquidity risks could be combined.

32. In any event, the exercises in assessing inherent risk factors during the training workshop programme, indicated that there is plenty of scope for different understandings of these risks, resulting in widely different assessments of the same risk factor. It has been recognised within SP that greater clarity of definition is required. One way of doing this would be to use the OBA framework, see paragraph 22 above, onto the defined risk factors. Figure 1 below provides an example. It should be noted in this case, that the OBA risks are effectively defined from a risk mitigation perspective and hence some may map onto more than the one outcome risk shown in the Figure. It was perhaps significant that in an exercise using this Figure as a guide, SP staff were able to restrict the number of risks relevant to a non-investment process to one or two.



FIGURE 1 ■ MAPPING OF RISKS DERIVED FROM ENTITY-SPECIFIC OBA OUTCOMES ONTO THE INHERENT RISK FACTORS IDENTIFIED BY THE SP

SP MODEL	RISKS DERIVED FROM OBA OUTCOMES
CREDIT RISK	1. Security: Credit risk losses
MARKET RISK	2. Efficiency: Market volatility near retirement reduces accrual
LIQUIDITY RISK	3. Efficiency: Liquidity mismanagement, forced sales
FIDUCIARY RISK	4. Efficiency: Impact of poor or conflicted investment governance on investment returns 5. Efficiency: Inappropriate asset duration (as above)
OPERATIONAL AND TECHNOLOGY RISK	6. Security: Theft or loss of assets 7. Security and Efficiency: Lack of control of trading 8. Security: Pension entitlements wrongly recorded
LEGAL AND REGULATORY RISK	9. Adequacy: Contributions not collected 10. Security: Pensions wrongly calculated or paid 11. Sustainability: Money laundering and other financial crimes
STRATEGIC AND REPUTATIONAL RISK	12. Sustainability: Poor quality of service (e.g. payments) 13. Security and Sustainability: AFP viability
MARKET BEHAVIOUR	14. Sustainability: Market misconduct or overpromising 15. Efficiency: Affiliates switch funds for the wrong reason 16. Coverage: Insufficient selling of voluntary saving

4.4 ► Criteria for assessing inherent risks

In addition to defining risks, the risk model annex sets out in Paragraph 23 the criteria for assessing inherent impact and probability. It might enhance clarity were it made explicit that this is the methodology for **inherent** probability, not **residual** probability, which is estimated using the standard formula already given in Paragraph 18 of the annex. The impact criteria should, as indicated above, also include extent of reputational damage to the system and hence affiliate and public confidence should the risk materialise. The probability criteria should also indicate that judgments will be needed where the risk has not materialised, perhaps accounting for “near misses.”

The risk model includes a matrix (Table 5) for combining inherent risk impact and probability assessments to obtain one of four risk levels. This appears to be suitably granular. It is also asymmetric, indicating that the SP has given some thought to its risk tolerance, and determined that high impacts are of greater concern than high probability. Calibrating how risks are plotted on this matrix will be very important, as it will in turn affect supervisory response and prioritisation. The matrix will be an output from what Table 1 in the risk model describes as the first stage in the supervision process. It is good that the Table envisages various sources of evidence, including surveys, as scanning the environment.”

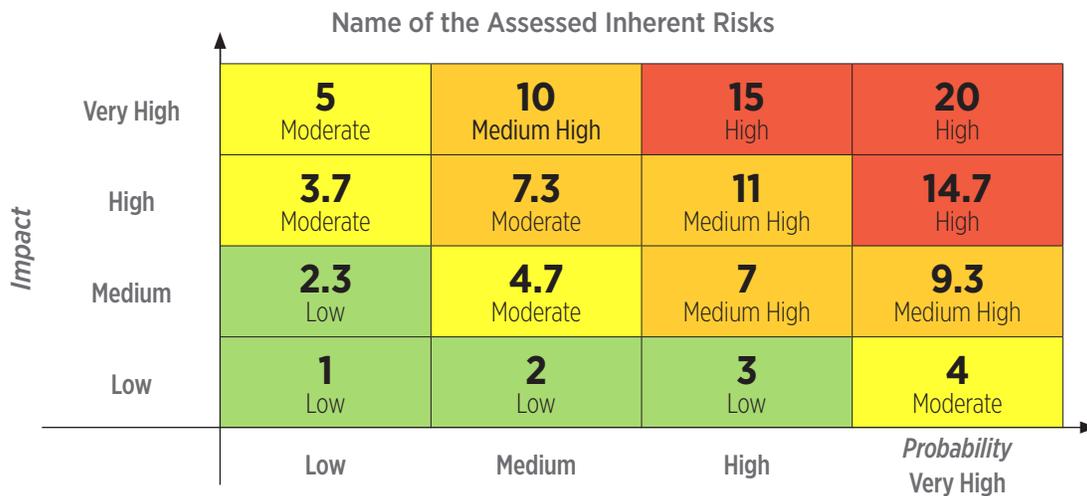
The current view is that the level of inherent risk, and the relevance of these risks to processes, will be the same for all AFPs. This reflects considerable homogeneity in their size, investment strategy and governance, so there is unlikely to be sufficient difference in the risk visible to various AFPs to justify making any distinction



at this stage in the process (as opposed to when net risk is assessed). This may be a valid assumption now, although some distinction could be made regarding reputation, such as following the conviction of funds in Mexico for collusion with the same parent companies as some Chilean AFPs, suggesting some difference may be justified for one or two of the risks. The SP should in any case monitor this assumption in case more significant differences become visible, for instance between investment performance and risk exposure. This should be made explicit in the annex.

In view of the large number of inputs to the net risk assessment process, for which the level of inherent risk provides input, a numeric scoring system will be needed. This could include numeric values for the cells in the risk matrix to be applied to inherent risks and to differentiate between different cells of the same colour. A relatively simple scoring method is suggested in Figure 2, below, which operates multiplicatively. Intuitively, it feels right that impact and probability should multiply, as an additive approach would not capture the full effect of simultaneously increasing impact and probability. (The non-integer scores could be rounded to the nearest integer.)

FIGURE 2 ■ THE SP'S RISK MATRIX FOR INHERENT RISK AND SUPERVISORY RESPONSE ASSESSMENT, WITH ADDED NUMERIC SCORES



4.5 ▶ Risk committee and support

For the new RBS model to work, there must be a clear and shared understanding of risk factor definitions and assessments. This is especially true because the relevance of each risk factor to each risk process needs to be agreed upon – and there are currently 192 such intersections, although the majority will obviously not be relevant. As indicated in the next section, some other important decisions are needed for the risk model to work. It is proposed that the SP establish a high level cross-organisational risk committee to make the final



decisions on risk assessment and calibration. This will need to be supported by a specialist or, perhaps preferably, a cross-departmental team that can supply information on the decisions to be made, present options and make recommendations. Most supervisors who have implemented RBS have found such committees unavoidable, although terms of reference vary with circumstances.

The committee could also be responsible for the overall risk landscape, tracking system, entity risks and the consideration or review of strategies to mitigate the risks.

4.6 ► Summary of conclusions on the proposed changes to inherent risks

In summary, the rather substantial revision of the SP's risk model and inherent risks adds complexity but enables an appropriate focus on outcomes, processes and cross-entity transversal mitigations, responding to previously raised concerns. More attention needs to be given to the definition and calibration of inherent risk factors, which might result in some mergers or subdivision of some factors. Although inherent risk factors are usually standard for all AFPs, there may, in due course, be scope for reducing the level of one or more factors for some AFPs where there is evidence to support such a move. In any event, the relevance of risk factors to processes will vary. Given the complexity, there is a strong case for a high-level risk committee with a supporting team to make collegiate decisions on the design and population of the risk model. This committee could also be responsible for the necessary overview of all risks in the landscape, including system risks. Although the SP already seeks to mitigate system risks where it can, greater transparency regarding its overall risk assessment and key mitigation actions would be desirable, such as through the published annual report.



5▶ Risk-based assessment of entity risk mitigation

The original report concluded that there was a good methodology for assessing risk mitigation to drive immediate and future supervisory action. Some gaps, mainly those relating to higher level coordination, were discerned, and the report therefore recommended that the SP do the following⁵:

- Improve the calibration of risk mitigation assessments on the six-point scale, thus improving assessment consistency, through cross-SP guidance to supervisory staff indicating how sub-risk and process assessments should be calibrated
- Consider whether having as many as six points of risk mitigation is necessary, given that only three levels are read off it for planning purposes, or whether the relatively high level of granularity it delivers could be used to give more than three levels of prioritisation or to enable some reliance to be taken from relevant governance assessments
- Restrict entity level (RER) scoring to a score for each risk area, with the impact of any methodological changes needed between years estimated so that a consistent performance time-series can be maintained
- Improve coordination of the implications of cross-cutting risks identified, possibly under the oversight of a supervision coordination unit
- Consider combining divisional heat maps (dashboard) into an overall residual risk dashboard for supervised entities that can give an overview of the residual risk landscape for strategic purposes and supervisory response purposes
- Present and undertake compliance and preventive supervision as part of a presentationally coherent methodology for risk-based supervision
- Improve coordination of on-site inspections undertaken the supervision divisions so that each entity receives fewer, more comprehensive cross-divisional inspections resulting in coordinated reports on risk mitigation, with a better spread across the year

5.1▶ Summary of risk assessment (RER) matrices

The risk model annex transforms the methodology used by the SP to assess risk at supervised entities. A summary of risk assessment (RER) matrices have been developed for each of the three types of supervised

5. The last two recommendations are taken from a section on the value chain for supervision, which is not otherwise relevant to the documents being evaluated.



entity and form the core of the risk model. They focus on identified processes in the entities (24 for AFPs) which are assessed according to the relevant level of inherent risk factor and the mitigation found. Five types of mitigation are identified. Internal controls and related factors specific to the process and the higher level assurance provided by the four transversal evaluations of high-level governance, risk management, internal audit and IT infrastructure. Hence what were formerly defined as governance risks are now redefined as mitigations within the matrices. This is consistent with common international practice.

One consequence of the matrix design is that there is no assessment of residual risk relating to the inherent risk factors. Instead, the net risk is the risk to processes, which is a more useable output. In practice, the assessment of the inherent risk factors does account for some residual risk. Where the impact is measurable, such as in relation to investment performance or level of incorrect benefit payments, this reflects actual mitigation. Similarly, the probability assessment reflects prior incidence of failures. So long as only a few processes are relevant to each risk factor, the assessment of the net risk of these processes can provide some visibility concerning how risk mitigation relates to inherent risk. Hence, there would be some value in defining the processes, or at least sub-processes, so that there is a simple relationship between processes or sub-processes and inherent risk factors, such as 1:1 or 1:2. This might enable a heat map of risk factor mitigation (net risk) for the eight risk factors across the six AFPs to be prepared, which could provide a further input to process or sub-process prioritisation. For instance, sub-processes relating to investment decision-making could be defined as follows:

- Decision-making regarding the choice of instruments or asset classes that properly reflects the credit risk,
- Decision-making regarding the composition of multi-funds that keep market and liquidity risk tolerable and
- Decision-making regarding the strategic asset allocation taken in a way that controls fiduciary risk.

Given the variety of activities falling within the example given above and even wider variation likely to be in some others, disaggregation of processes into sub-processes along the lines suggested appears unavoidable on practical grounds.

With this revised approach, the SP has also moved away from a hard-to-justify single risk score for each entity to a net risk score for each process that draws demonstrably on rigorous system and entity assessments and that can enable cross-cutting analyses and actions. This creates a dashboard or heat map for each entity to be used to prioritise future work plans and inform the level of supervisory response at each entity. It would be straightforward – and is presumably intended – to produce a dashboard or heat map showing, at a minimum, the net risk for each process running across all the AFPs. This would provide an overview of where more system-wide supervisory activity, including guidance, is needed to improve risk mitigation.

The processes are grouped into five areas, which are sufficient for supervisory response purposes and to provide incentives to entities, as is considered further in the supervisory response section below.

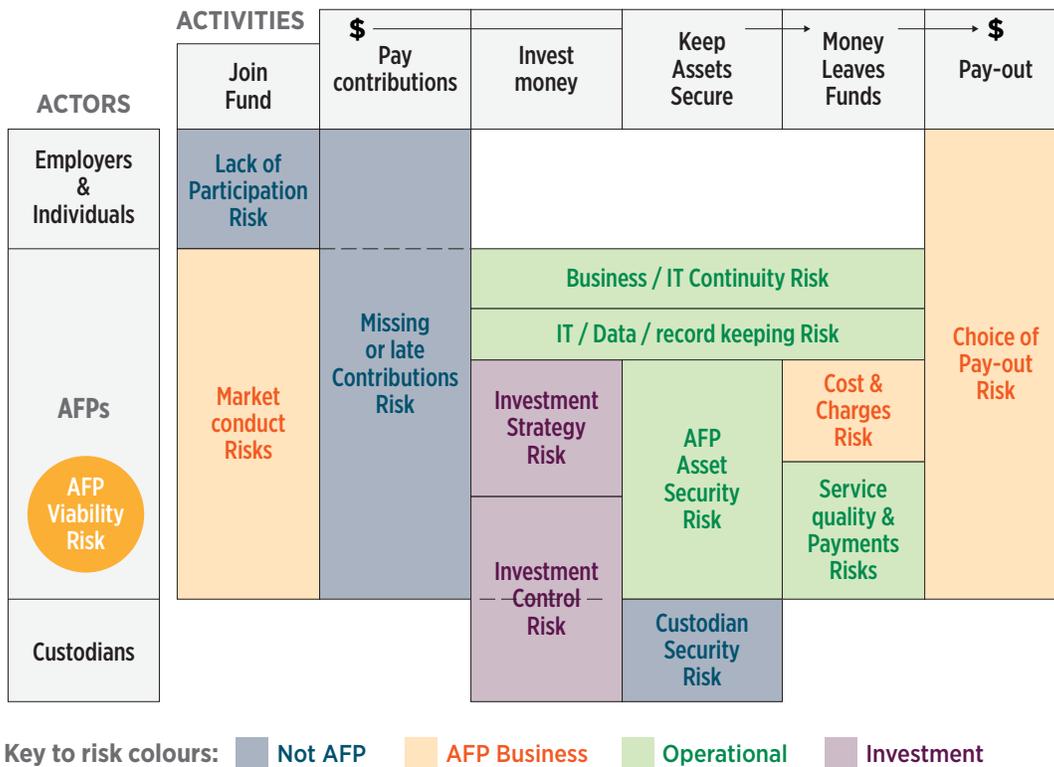


5.2 ▶ Process descriptions

When focusing on the 24 processes at AFPs⁶, the level of disaggregation appears to be broadly appropriate for deriving an overall assessment of the entities' performance and, hence, calibrating the supervisory response while recognising that most processes might need to be subdivided to facilitate assessment and decisions on what should be examined during each inspection.

One way of ensuring that the list of processes is coherent and complete is to consider each of the main functions involved in pension fund administration, as summarised in Figure 3 below. Figure 4, also below, maps the functions identified in Figure 3 against the processes in the SP's revised risk model.

FIGURE 3 ■ ILLUSTRATIVE DIAGRAM OF MAIN FUNCTIONS WITHIN A DC PENSION SYSTEM



6 These are largely replicated in the RER matrices for the other supervised entities.



FIGURE 4 ■ SP PROCESSES COMPARED WITH FUNCTIONS SHOWN IN FIGURE 3

AFP function	PROCESSES IN THE SP MODEL
AFP viability	4. Fund accountability?
Mis-selling	20. Consultancy for fund construction, etc. 22. Sales 23. Advertisement
Contributions	1. Collection of contributions 5. Asset laundering, etc. 6. SIS premium payment
IT/business continuity	Transversal evaluation
IT/data/record-keeping	2. Account update and fund accountability? 12. Investment recording
Investment strategy	7. Investment decision-making
Investment control	8-13 Various investment related processes
AFP asset security	10. Investment control (part) What about reconciliation with custodian? Is this covered in 12?
Costs and charges	3. Fee collection Maybe also 10
Payments out	14-19 Benefits What about execution of transfers out, refunds, etc.?
Service quality	21. Complaints client support 22. Customer services

The process of mapping illustrated in Figure 4 indicates some ways in which the process descriptions could be clarified usefully as follows:

- The heading “Account administration” appears more limited than the functions that fall under it, or should fall under it. This would presumably be the home for processes that could give rise to the risk of impaired AFP viability, such as the AFP’s business planning, budgetary and own-funds accounting processes. If this is not the case, and if it does not fall within “Fund accountability,” there may need to be an additional process defined.
- In any event, the “Fund accountability” heading would benefit from some clarification, as could the similarly opaque “Update.” Presumably, this is updating the affiliate account records, but it needs to be clear which types of update are contemplated, such as new contributions, affiliates or account values, each of which might be a sub-process.
- The process indicated by the ‘Investment improvement’ heading is unclear. If it is an element within the strategic decision-making process, perhaps its distinction from investment decision-making needs to be clearer. Alternatively, is it the implementation of particular policies, such as those covering liquidity and secure custody (an odd combination)?



- The last of the processes under the “Fund investment” heading appears to be a catch-all provision. Control is already covered under “Investment control,” so this process could be limited to measurement and reporting of investment risk and performance (this last word being one that should definitely feature in the description) for the purpose of enabling control and strategy formulation.
- It is unclear where the process for transfers of balances out of funds to other funds and AFPs or as refunds would fall.
- Under the “Sales and marketing” heading, a clearer distinction could be made between intermediated selling direct to customers and what the AFP does directly to market its funds.

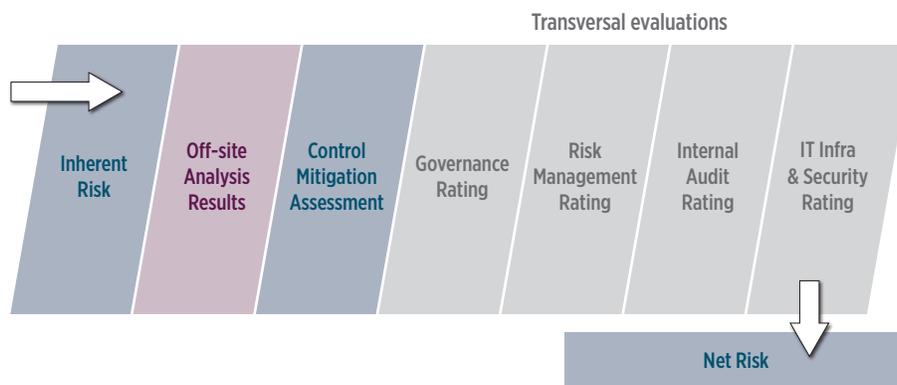
If the clarification of the headings used for entity processes would take up too much space in the matrices themselves, some clarification should be included by expanding Paragraph 20 in the risk model annex.

As already mentioned, the level of disaggregation to processes is, in practice, unlikely to be sufficient for prioritising and planning future years’ supervision programs. The annex refers to the existence of sub-processes. Presumably, therefore, individual divisions within the SP will dis-aggregate their parts of the RER matrix, to sub-process level. This should enable them to make judgments on how frequently each sub-process needs to be examined to keep the risks to the SP’s objectives tolerable.

5.3 ► Populating the RER

It is not clear from risk model annex how the cells in the RER matrices will be populated and will be combined to produce the net risk score. This is significant. For each AFP, for example, the annex suggests that 121 cells that will need to be populated and that each process potentially intersects with 13 factors that could influence the net risk score. In addition, the results of off-site testing and analysis also need to be factored into the net risk assessment⁷, even though no specific score is contemplated. Figure 5 below illustrates how various factors combine.

FIGURE 5 ■ COMPONENT OF THE NET RISK ASSESSMENT



7. Except to the extent that off-site analysis informs the determination of inherent risk factor scores.



The RER matrix rightly recognises that not every inherent risk factor is relevant to every process. Where a risk is relevant, this is indicated by colour coding. It might be presentationally better if the irrelevant cells were grey-shaded so that the relevant ones can be colour coded according to the colours used in the matrix in Table 5. Considering how inherent risk factors have been linked to processes, the following should be borne in mind:

- Careful thought appears to have gone into which cells are relevant to investment risks. However, operational and IT risk and legal and regulatory risks are shaded as possibly relevant for every process. This seems highly implausible, as well as unwieldy. The SP needs to think through how each of the 24 processes impacts these inherent risks, using more precise risk definitions as suggested above, and eliminate those which not really relevant.
- In this context, it is noteworthy that IT infrastructure, security and related factors are covered by a transversal evaluation. Hence, operational and IT risk should perhaps only be relevant for major IT-enabled activities such as collection of contributions, account updates, valuation, investment control, investment recording and reporting, the payments processes under the “Benefits” heading and account information.
- Legal and regulatory risks might be limited to some specifically regulation-driven processes such as the collection of contributions and fees, money laundering, investment control and various types of granting of benefits, where significant noncompliance would definitely impact system outcomes and reputation.
- As strategic and reputational risk are defined in Paragraph 21 above, they may be relevant only to the collection of fees, fund accountability, investment implementation, complaints and sales or marketing.
- Market behaviour appears to be associated mainly with valuation, members’ services and sales and marketing.
- Having restricted the number of intersections much more tightly to those likely to have a significant impact to the inherent risks concerned, some processes might have no risk assigned (indeed, one process is already in that category). In that case, some redefinition of risks or risk factors is necessary.

Presumably, once the level of each inherent risk is determined, the relevant cells will be colour coded red, orange, yellow or green as determined by intersection of impact and probability in Table 5 in the annex. A major question is whether only one colour will be used for each inherent risk or whether lesser colours could be used for cells where the process is less relevant to the risk. For instance, the list of processes associated with legal and regulatory risk is fairly heterogeneous, and money laundering should probably have colour indicating a lower risk than the principal benefit calculation processes do, or it should become a separate inherent risk.

On the other hand, one or two of the investment processes without shading for specific investment risks might merit a lower level colour for the intersecting cells. For instance, maybe the valuation process has some relevance to market risk, but it is less than that of investment implementation. It is strongly advised that the SP consider the colour coding of every intersection between process and inherent risk and tailor the assessment to the impact the process could have on the SP’s objectives. This would be one substantial task for the proposed risk committee.



The next question is how inherent risk assessments contribute to the assessment of net risk where more than one inherent risk is associated with a process. The substantial reduction in intersecting cells suggested above would make this a less important but still necessary question. Either the highest risk colour will apply, or there will need to be some process of adding the scores from risk factors to recognise that the risk inherent in a process is greater if there is more than one type of impact. Defining sub-processes in a way that allocates only one risk to each, as suggested above, is another option.

Whether inherent risk factor assessments should vary between AFPs has already been considered above. However, even if measured risks do not affect the inherent risk factor, they should surely affect assessments of risk mitigation from controls specific to the process, as negative impacts are likely to suggest that the control is not working. The approach to sensitivity testing of failures found, proposed in Paragraph 61 and Figure 6 below, may provide a suitable methodology for this.

There is also a question as to whether transversal evaluations provide mitigation to all processes or whether some of these intersections can be “greyed out.” For instance, the board and senior management may have little relevance to some detailed process controls, and IT security might be irrelevant to processes that are not time critical or that use sensitive data (e.g. investment decision making or marketing). When scoring some transversal evaluations, there should perhaps be the option of a bad score actually reducing the mitigation assessment. For instance, bad governance or bad IT security could introduce an additional dimension of risk that not contemplated in the inherent risk factor assessment. This is probably not the case for risk management or internal audit, which are pure mitigants.

A formula is necessary to determine whether each type of mitigation can reduce the level of net risk. Given the complexity of this model, it likely needs to be a numeric formula, which will require careful calibration. The combination should probably be multiplicative (of fractions) rather than subtractive, which can potentially result in unhelpful negative numbers. Given that judgment is inevitable and necessary, the annex should provide some indication of the sources of evidence involved and, in general terms, how they are combined. Indeed, judgment is needed to sense check the results. One technique is to revert to the risk matrix (as shown in Figure 2 above) and follow the way mitigation moves the risk between cells from the cell equivalent to the inherent risk factor. It is reasonable to assume that mitigation should move a risk to the left by reducing probability. A key question is whether, assuming mitigation is sufficient to move the risk to the left of one of the lowest probability cells, it can be reasonably assumed that impact is also reduced, facilitating a lower risk score. This may vary between risks.

It is important that the scoring methodology is tested and calibrated both at the SP and as a result of pilot inspections under the aegis of the risk committee and its support team.

5.4 ► Mechanics of control assessment

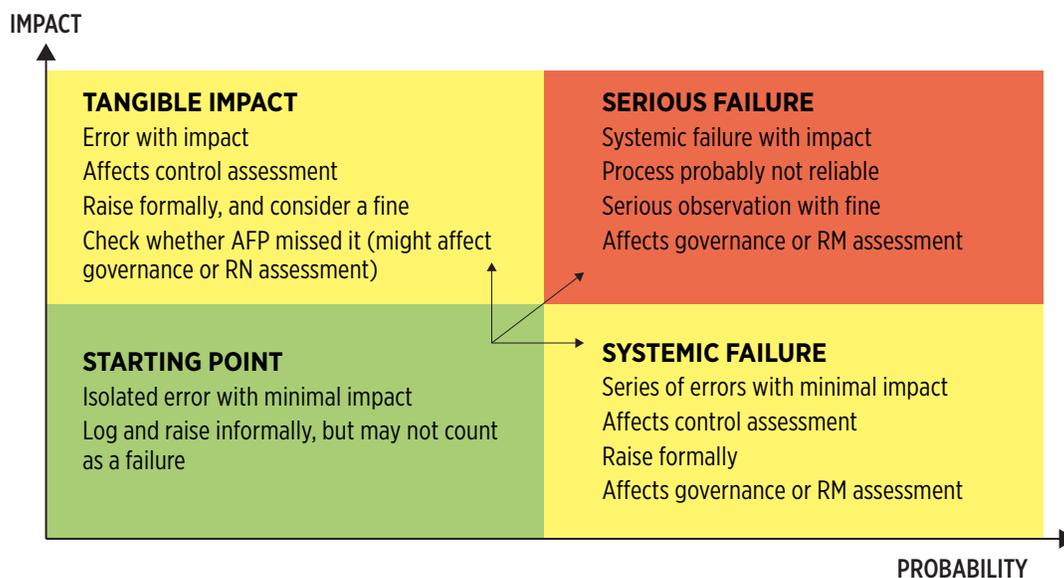
The annex provides no details as to how the mitigation of risks by administration and control is to be assessed and moderated. Given the number of different mitigation assessments, the SP is likely to move from the six-point calibration scale to a four-point scale. But whatever scale is used, some revision will be needed to create departmental guidance on how each process is assessed. This should include assessment criteria (linked to



external guidance; see next section) and sources of evidence, which could be off-site and on-site. Perhaps a little more detail on this could be included in the annex, but it should remain generic to avoid constraining the SP's freedom of action. The guidance should also include some guidance on the extent of failure consistent with less than fully satisfactory assessments (the criteria should describe what "good enough" looks like).

There should, in particular be a method for assessing the gravity of failures, the immediacy of response (where failures are found off-site) and the effect on the relevant mitigation assessments, bearing in mind that significant failures identified by the SP finds but not the entity could be negative evidence regarding governance, risk management or internal audit. Figure 6 below provides a simple conceptual model for assessing significance. The starting point is that the failure is a unique incident without impact, but escalation to a higher (yellow) response would be appropriate where the failure is systemic or impactful, whereas an urgent red response might be appropriate when both conditions are true.

FIGURE 6 ■ CONCEPTUAL MATRIX FOR ASSESSING THE SIGNIFICANCE OF A FAILURE



To ensure consistent responses to identified failures, there would be merit in establishing a triage⁸ committee (or one for each supervision department), similar to that established by the UK Pensions Regulator. Although the UK equivalent met daily⁹, it did so in the context of tens of thousands of funds and relatively limited early warning mechanisms. In contrast, monthly or fortnightly meetings might suffice for the SP. The committee would comprise supervision departmental heads and/or team leaders and a representative from the central

8. The concept of triage comes from hospital practice, where expert decisions must be made quickly regarding emergency admissions, and the decision must be made regarding whether the patient needs immediate attention, can wait in line or has too trivial a complaint to be in the emergency facility at all.

9. At least until there was confidence that routine processes resulted in consistency.



risk and regulation teams, if different. It would consider all negative evidence obtained and determine what type of response is appropriate, which could be immediate action or an information request for serious problems, flagging for the next on-site inspection for less serious ones, and logging and leaving alone unless a trend emerges for minor failures. The committee could also seek to identify trends relevant to more than one entity and could report periodically to the risk committee.

Although the annex does not refer directly to organisational structure within the SP, the way that the matrices integrate different types of assessment implies a greater coordination of inspection and surveillance processes under a common remit, especially in relation to transversal evaluations involving a single assessment or a limited number of assessments for each entity. Teams should be established for each transversal evaluation. These could either be specialist stand-alone or cross-departmental and virtual, though the latter is probably preferable.

During the training workshop programme, there was discussion of the continuing reference in the annex (see Table 1) to compliance monitoring as being distinct from preventive monitoring. This is a distinction that does not sound consistent with RBS, although the underlying practice might be. For some processes with especially high inherent risk factors, such as benefit payments,¹⁰ there is a good case for off-site or on-site checking of the accuracy with which the processes are applied. Such compliance testing should be seen as gathering evidence regarding the functioning of the processes and controls concerned. The results should be accounted for in the assessment and could be reported at the same time – although, as indicated in Figure 5, some immediate action may also be necessary.

5.5 ► Transversal evaluations

Establishing clear and effective assessment processes will be especially important for the transversal evaluations, which relate to the following:

- The **Board of Directors and senior management** – These comprise the entity’s high-level governance. Although the SP previously separated the Board from senior management, in practice, it is not so easy to distinguish between the two, and senior management may compensate to some degree for weaknesses at the Board level. Combining them in this way therefore appears to make sense.
- **Risk management** – This is the framework and structure of the entity’s risk management function. It also extends to what the function has actually achieved in mitigating risk under the five process headings at AFPs and the unemployment funds administrator, properly recognising that there may be some variability between the application of risk management and the process headings in practice.
- **Internal audit** – Recognising that this function should be separate from other functions and provides a final line of defence.

10. Checking compliance with quantitative investment limits may also fall within this category if the limits are key mitigations of risk factors. Because the SP receives data that would enable any breaches to be visible, it would be negligent not to check against the limits. As this is largely IT enabled, it should not be much of a burden. However, expert judgments are then needed concerning whether breaches are due to bad control, accidental market movements or even actions taken to mitigate liquidity risk where the breach is preferable to its avoidance.



- **Management of information technologies, security, continuity and outsourcing of services** – It is important to recognise that there have been cross-cutting issues at AFPs in this regard and that if these issues are not well managed they can impact all parts of the entity.

This structure is logical and should ensure that assessing governance, in its broadest sense, is central to the SP's work. Book V, Title XIV explains the content and evaluative criteria for the first three types of evaluation and should probably have a section regarding the fourth. In this context, the possibility of adding the quality, assessment, recruitment and training of staff as another transversal element. Training workshop preparation of assessment criteria indicated that this subject would be well covered during individual control mitigation assessment for specific processes, supplemented by the consideration of HR policies as part of governance.

The annex does not specifically refer to how evidence concerning the evaluation of governance and risk management will be obtained to make the assessment¹¹. Including much detail in this regard would probably be inappropriate for this type of document and could unduly constrain the SP's freedom of action. However, SP's methodology might include interviews with entity boards and management in which they are invited to offer evidence of how they know that the principles and guidance in Book V, Title XIV are being implemented. In this way, entities could be warned that the SP is not just looking for documentation but also seeks examples of how good practice is integral to the organisation. In any event, such an approach should be an important element in the SP's methodology.

Interview practices during the training workshop programme indicated that the application of this methodology should be feasible and that the skills required are already available. Six high-level assessment criteria for governance that could be tested during the interview process were proposed, drawing on the structure of the SP's draft guidance and international guidelines such as from CAPSA.

- Application of ethical principles – Fiduciary duty and integrity (including conflicts of interest)
- Control of the environment – Information communication within and outside the entity, monitoring and a framework for independent reporting by internal control and audit entities
- Discharge of responsibilities by the Board and its committees – Clarity of roles between and within Board and management
- Qualifications and suitability of the Board (e.g. commitment)
- Suitability of management and discharge of their responsibilities (possibly including HR)
- Strategic direction – Decision-making by the Board

In considering these criteria, the biggest challenge to assess and inculcate is fiduciary duty. As with many criteria this can largely only be tested by seeking negative evidence, such as decisions tainted by conflict of interest or disinterest. Positive evidence of the board or management acting selflessly for the benefit of affiliates may be harder to find. However, despite this difficulty, assessment is too important to omit. During discussion, it also became clear that the interview process, where it involves relatively junior staff interviewing

11. The annex specifically states that the risk assessment for each process and sub-process will not be public.



board members and CEOs, would need support from the SP's top leadership, who should clarify publicly that they support the staff in this regard.

In addition, the high-level interview process can simultaneously test an aspect of governance and the management of a key process. Assessing the investment decision-making process, for instance, should also test the governance criterion of strategic direction provided by the Board and higher management. Finding poorly made decisions is likely to constitute evidence relevant to both, and the failure might be of such consequence for the AFP to justify a double effect.

5.6 ► Summary of conclusions regarding residual risk assessment

In summary, the RER matrices should, with associated developments in process, address the recommendations made previously. Work remains to be done in refining process descriptions, scoring systems, the population of the RER matrix and the guidance to staff on assessment of the various forms of mitigation, the criteria to be used and sources of evidence. The risk committee can lead on many of these decisions. When it comes to assessing the significance of specific failures, whether found off-site or on-site, one or more lower-level triage committees could be valuable, applying a standard conceptual model to determining significance. Implementation should also include further development of a governance interview methodology, which could be mentioned briefly in the risk model annex and will need public high-level support. Compliance inspection would be better represented, in a risk-based way internally and in the annex, as seeking assurance on controls and administration by testing whether their application has ensured legal compliance for processes with high inherent risk factors.



6▶ Promoting governance and risk management

The original report concluded that although the SP has the foundation for a robust methodology for verifying good governance and risk management, which should also help raise standards through entity responses to inspection reports, there was scope for some enhancement. It recommended that SP accomplish the following:

- Publish its supervisory guidelines and seek agreement on them with the entities. They will need some revision to remove the verification methodology and clearly implement a regulatory principle and good practices format. The content may need to be reordered in line with any changes to categorisation of corresponding risk factors.
- Develop a structured governance interview methodology to assess entity boards and, to some extent, management, shifting emphasis away from reliance on documentary evidence. Cross-divisional teams with specific training would be needed for this purpose.

The SP has prepared Book V, Title XIV “Instructions on Risk Management in the Pension Funds Administrators” in response to the first recommendation. This evaluation of the draft publication considers this document both as guidance to the AFPs and the basis for the evaluative criteria the SP will use to assess risk mitigation at the AFPs as part of the revised risk model.

6.1▶ Structure of the guide

The guide’s structure is broadly consistent with the revised supervision model. It is written in a clear discursive style suited to the audience, making appropriate distinctions between requirements and desired good practices. It could readily supply the evaluative criteria for supervision, if enhanced to give it more structure and to add references to the sources of evidence for each item where these are not obvious, such as data analysed off-site. This would provide SP staff with an updated manual that is consistent with the external guidance. SP should then obtain entity agreement in writing to follow the principles and guidance, subject to any clarifications or reasonable changes that they request during the consultative process. This could improve the quality and detailing of the content and facilitate enforcement.

The guide’s structure is to some extent consistent with this double purpose of codifying best practices and supplying evaluative criteria for SP staff. It starts with the components of governance subject to transversal evaluation and follows up with the management of the eight risks defined in the SP’s revised risk model. One complication is that, as discussed above, the revised risk model does not directly provide for the assessment of control over the eight risk factors, but instead focuses that assessment on the 24 processes which cross-cut the risk factors. The guide should therefore specify which processes and sub-processes must be controlled to mitigate each of the eight risks, and then cover each sub-process in turn.



The document is presented in terms of principles and guidance, in that the first paragraph of each section sets a high-level requirement, and the rest of the section provides guidance on how to deliver against the principle. The principles might be presentationally more clearly distinguished from the guidance, for instance, by being emboldened or referred to as principles.

6.2 ▶ Transversal evaluation guidance

Turning to the principles and guidance supporting the transversal evaluations, the first two sections cover governance, but the titles of both indicate they are related to risk management, with a section on risk management mechanisms followed by one on the organisation of risk management. A clearer distinction between governance (Board and senior management), risk management and internal audits could be achieved by reorganising the guidance into sections on risk management structure, mechanisms and internal control, internal audit and governance, as suggested in Figure 7 below.

FIGURE 7 ■ POSSIBLE REORGANISATION OF THE STRUCTURE APPLYING TO TRANSVERSAL EVALUATION

CURRENT STRUCTURE	POSSIBLE REORGANISATION OF STRUCTURE
II.1 Risk management manual	Risk management structure and mechanisms and internal control
II.2 Internal audit	Internal audit, although board responsibility should be referenced in Governance
II.3 External audit	Governance (Board and senior management)
II.4 Internal control	Risk management structure and mechanisms and internal control
III general	Governance (Board and senior management)
III.1 Functions of the Board of Directors	Governance (Board and senior management) Risk management structure and mechanisms and internal control
III.2 Qualifications and suitability of the Board of Directors	Governance (Board and senior management)
III.3. Establishment and functions of Board committees	Governance (Board and senior management) Risk management structure and mechanisms and internal control
III.4 Functions of the administration	Governance (Board and senior management) Risk management structure and mechanisms and internal control
III.5 Management skills and suitability	Governance (Board and senior management)
III.6 Responsibility for risk management	Risk management structure and mechanisms and internal control
III.7 Internal audit unit	Internal audit



In considering possible re-structuring along these lines, some potential gaps have become apparent:

- The section on the functions of the Board and its committees currently focuses mainly on their risk management role. This is important and could be covered under the heading of risk management, but there should also be a reference to the Board's strategic role and that of ensuring clarity and understanding of roles within the organisation. Regarding the Board's role of strategic orientation, which is mentioned in the risk model annex, there could be some generic reference to having a proper process for considering, approving and monitoring key strategies based on reliable and timely information of special relevance to investment. The absence of a reference to approving the statement of investment principles is unusual.
- Also missing is the Board's role in reviewing the performance of the entity based on sufficient and timely management information, as well as its own performance. The actual measurements expected are included in the sections on specific risks, so the section on measurements provided to the Board can be of a higher level.
- The section on the functions of the administration could likewise be split between general functions and those relating specifically to risk management and internal control.
- The two sections on internal audit could usefully be combined and ordered as appropriate in a logical structure, while remembering to include also some reference to internal audit within the Board's functions.
- Conflicts of interest are covered fairly thoroughly under ethical principles and specific risks, but the ethical principles section could also refer to generic mechanisms for identifying and managing them.
- The section on management skills and suitability could benefit from expansion to provide more guidance on the entity's HR policy and practices, including recruitment, training and performance evaluation.
- There might be greater coverage of the processes and reporting that is specifically expected of the risk management unit. This might be added to the section on the risk manual, in which case the section title and opening paragraph containing the principle should be expanded to reflect the wider scope. Alternatively, there might be a separate section.
- The evaluation of risk management at AFPs using RER matrices is intended to result in separate assessments under the five process headings. It would improve consistency were there to be five subsections on the role of the risk management function relating to each.
- In entities such as AFPs with substantial investment management roles, it is common for there to be separate investment and operational risk management units. This possibility needs to be contemplated with the caveat that there should be a unifying structure for high level reporting and management of the function.

There is currently no coverage in the document of the functions that will be subject to the transversal evaluation of the "management of information technologies, security, continuity and outsourcing of services." This gap should ideally be filled. In practice, much of the material is already included under operational and technology risk, while references to relevant international standards could suffice for much of the fine detail.



6.3 ► Guidance on specific risks

Turning to the specific risks (Section IV), as mentioned above, these should be specific concerning which of the 24 processes are involved and what good practices applies to managing and controlling these risks so as to deliver against the principle for the risk. As currently drafted, some of the guidance appears somewhat generic rather than specific to its actual application to the risk concerned. Hence, for instance, the section on credit risk should start with the way the fund strategies should be designed to keep credit risk to a level appropriate to the fund, including the importance of diversification, then move on to the mechanisms used to keep credit risk within tolerances during strategy implementation, and then finish with material on measurement and its use for controlling the risk. Any reference to conflicts of interest should be specific to how they might impinge on this risk.

Increasing the precision of the guidance in this way would make it all the more important that the risk definitions restrict the application of the risk to a limited number of processes, as mentioned above. This is the case already for credit risk but not, for instance, for legal and regulatory risk management. Making the material more specific to the 24 processes would result in some of the existing material on the non-investment risks being moved to the transversal evaluations of governance and risk management, or, in the case of IT risk, to a new section on the transversal management of information technologies, security, continuity and outsourcing of services. The section on operational and IT risk would then focus on the specific control procedures that are expected to be in place regarding collection of contributions, update of affiliate records, investment implementation (execution and settlement), asset valuation, investment recording and accountability, various benefits calculation and payment processes and possibly provision of accounts information to affiliates.

Indeed, by identifying the specific processes and good practices needed to mitigate each of the risks, the drafting process should constitute a major input to decisions on the relevance of different risk factors to different processes. It is therefore recommended that, in further developing the RBS methodology and guidance, the same team be responsible for the guidance and assessment criteria, which can be drafted simultaneously, providing a reality cross-check.

6.4 ► Summary of conclusions on the new guidance document

In summary, the SP has made a very good start in preparing an extensive document containing principles and guidance on risk management that covers most of the factors the SP aims to assess at supervised entities. Some reordering might help align the document with the risk model, including separate sections for high-level governance, internal audit and IT management. It would also facilitate alignment and assessment if the specificity of the guidance on managing the eight risks in the model were strengthened and drafted in parallel with the risk model assessment criteria, preferably by the same teams. The next stages are to agree the principles and guidance document with supervised entities and to convert the content into assessment criteria within the SP's operational manual.



7▶ Assessing investment governance and using quantitative investment techniques

The original report concluded that, although the SP already made good use of quantitative and quantified data, to improve further, it could insert a new investment sub-risk covering sound and rigorous strategic processes, supported by supervisory guidelines explaining good practice in this regard. This would enable the SP to transition away from regulatory quantitative investment limits and SP asset valuation to reliance on AFP benchmarking, subject to an AFP demonstrating that it has robust processes, and custodian valuation and reconciliation.

Considering how the two documents evaluated in this report apply to the strategic risks and processes relating to investment provides a good overview of how the revised methodology will function in practice by reviewing a risk that is not explicitly covered at present. This is important, as pension fund strategic asset allocations and the process needed to optimise them are fundamental to the ultimate benefits delivered by the system, necessitating strong investment governance, which international evidence indicates correlates with net performance. As suggested earlier in this report, the risk model and guidance can address this risk as follows:

- The fiduciary risk factor could account for the impact of poor strategy, as mentioned in Paragraph 30. As expanded upon in Book V, Title XIV, however, this risk appears limited to the discharge by staff of their fiduciary duties. It could be redefined in the annex and guidance as the risk of a strategy that fails to seek good but prudent returns for younger cohorts of affiliates, while protecting older cohorts from market and liquidity risk. In essence, it is a combination of duration risk and the risk that for reasons of dis-interest or conflict of interest an AFP does not develop a strategy to optimise risk and return for each fund.
- There is already an appropriate process risk in the model titled Investment Decision-Making. The guidance in Book V, Title XIV regarding the management of this risk could be expanded to cover sound and rigorous processes for establishing investment strategies for each multi-fund, within a statement of investment principles¹². These should be based transparently on appropriate information and analysis. There is awareness within the SP of what constitutes a good strategy process and this knowledge could be harnessed for this purpose. The model was discussed further during the training workshops.
- The definition of the investment implementation process should encompass the controls that ensure that tactical decisions are consistent with the strategies and not driven by conflicted interests. This or the investment measurement process should also include coverage of benchmark portfolios and other

12. It is common for a statement of investment principles to also encompass investment policies, which are covered in the revised model in a document which Canadians refer to as a SIPP, nomenclature that has not been widely adopted elsewhere. This is not essential, as the policies could just as well sit alongside the investment principles statement.



analytical techniques that should inform the strategic decisions and their implementation. CONSAR in Mexico has made it compulsory for AFPs to use benchmark portfolios. It might be beneficial to emulate this in Chile.

- The assessment of the inherent risk factor for fiduciary risk should be informed by the SP's analysis of how well portfolios deliver risk adjusted returns appropriate to their age cohorts. If this is not so good, quantitative limits might be too restrictive, in which case remedying this would be a high priority for the SP. However, the SP would wish to ensure that AFPs have the capacity to reliably undertake full portfolio optimisation. Even without changing the limits, considering whether AFPs are failing to beat a crude benchmark compatible with quantitative limits would provide a valuable input to the assessment of the processes contributing to fiduciary risk.
- The strategic role of the Board, which should be included in the guidance, would also have a bearing on the assessment of the relevant processes. It should be an important component in assessing Board and senior management governance, as recommended in the previous section of this report. The net risks of an AFP with a board that is not strategic would be rated lower than those of one that is strategic, even though their processes and results are otherwise identical. This is particularly relevant in view of the herding that occurs in the Chilean market due to the application of relative performance limits.
- Whilst considering the effect of herding, this behaviour can be used advantageously if the herd leaders are well run, so in practice, the herd leaders should receive the most attention from the SP, at least initially, with the other AFPs being monitored to ensure they keep up with the herd.

During the training workshops, the analyses that the SP undertakes and should undertake were reviewed. These should include comparative analyses of gross and net performance for each type of multi-fund, including against a "crude" SP benchmark, analyses of relative portfolio volatility, analyses of credit and counter-party risk exposure and analyses of portfolios against each fund's strategy and mandate. The SP needs to develop key indicators from each of these analyses designed to measure the level of risk, which could be hybrid and similar to the following:

- Credit risk: Concentration level, proportion of relatively high credit risk exposure in the portfolio and any breaches of limits designed to restrict credit risk
- Counter-party risk: Concentration level, including any breaches in this regard
- Market risk: Volatility in each portfolio compared with the average across the six AFPs, the AFPs' other funds and the fund performance
- Liquidity risk: Some measure of level of asset sales at a loss
- Fiduciary risk: Performance relative to benchmarks (SP and AFPs), asset duration relative to affiliate duration and portfolios compared with the strategy and mandate (at least where performance is below benchmark)

These indicators could be used to give early warnings of problems for immediate attention, as well as informing questioning during on-site interviews.



In summary, an evaluation of how strategic investment risk fits within the new model and guidance shows that the risk model and guidance could readily be modified to ensure that risks relating to investment strategy are assessed, and it would be good if they were. In particular, moving away from quantitative limits would be partly contingent upon ensuring that AFPs have an acceptable investment strategy process and strategies. The SP needs to focus on encouraging best practices for investment governance, including well-informed strategies and the use of benchmark portfolios, especially with the herd leaders. The analyses it undertakes could be developed further to provide risk indicators to inform the supervision process.



8► Proportionality of the immediate supervisory response

The original report concluded that a proportionate response to identified risk should flow from the SP's methodology. It noted a few potential obstacles and recommended that the SP do the following:

- Seek greater authority to act where serious problems are found, including suspending, removing or appointing Board members.
- To balance these powers, ensure that supervisory judgments on supervisory responses are defensibly underpinned by consistent assessment, including a review of the calibration of existing assessments to ensure that they are not unduly negative.

The revised model annex states that “the Superintendence will adopt a Supervision Attitude towards each component of the structure as well as on the overall situation of the entity, complementing the current analysis with the revision of its evolution over time. According to the attitude, a supervision response is defined, which translates into a supervisory planning of the entity, and define a frequency, amplitude, depth and nature of the activities carry out.” This is a less explicit explanation for how supervisory response, or attitude, will be calibrated than was supplied in the previous regulation, which provided separate matrices for the purposes of prioritisation and supervisory response.

Using output from the RER assessment matrix methodology could provide a robust methodology for determining supervisory response if the RER assessment is made more robust, as suggested above. The response can now be based on net risks for each process calibrated according to the four risk intensity levels identified in Paragraph 29 of the annex. Plotting these risks on a dashboard the 4×4 matrix in the risk annex could provide an overview to facilitate decisions on proportionate response. The number of poor net risk scores at an entity might also affect the supervisory response, which would be reasonable. In practice, it might be reasonable to combine net risk scores for process areas and take action regarding each process area according to the combined net risk score.

It is important that the SP determine the indicative level of response to each of the four risk levels and seeks more authority where there is insufficient gradation of powers available. This raises the continuing issue of deficiencies in the SP's powers. Two problems were noted during the training workshops:

- Most importantly, the SP has no authority to insert temporary management into a fund that is being run poorly or to protect affiliate assets if they are in jeopardy – a power frequently used in the United Kingdom and other jurisdictions with many more funds but which is equally appropriate in a privatised social security system such as Chile's. This would normally be associated with the power to remove or suspend board members and specific managers. Such powers are required for insurance supervisors by the IAIS guidelines and are implicit in OECD guidance for pension fund regulation. The threat of using



such powers would improve AFP receptiveness to taking action where serious risks are identified. Without such powers, the apex of the enforcement pyramid, or supervisory ladder, is effectively incomplete.

- There are also insufficient powers to remove market players, notably intermediaries, where there is poor market conduct to the detriment of affiliates, as is prevalent. The SP apparently has good knowledge concerning the identity of the problem individuals but cannot remove them from the market. Nor, apparently, can it apply pressure via the AFPs, which may benefit from misconduct. In some similar systems, the AFPs are legally liable for such misconduct and are obliged to implement and enforce controls over them. Supervising the AFPs in that regard should be a key element of market conduct supervision, as discussed during the training workshops.

An underlying issue relating to the absence of powers is that a licence to manage or advise on pensions is apparently considered a right rather than a privilege. One purpose of having a licensing regime such as Chile's is that licences should be issued contingent on good behaviour and revocable when such trust is not earned. A long-term aim for the SP should be a move towards this concept. Regarding market conduct, although applying international good practices to such supervision may help through securing some discipline over what is disclosed during the sales process, experience shows that regulatory changes in market dynamics might be more effective. This could include changes to the way transfers are managed to enable the AFP from which a transfer is requested to make a counter-proposal and to make it harder for intermediaries to claim commissions, as in Costa Rica. Alternatively, it could involve reducing caps on AFP commissions or fees to affiliates to reduce the money AFPs have available for marketing.

During the training workshops, there was also discussion of the strategies that the SP adopts to influence behaviour at AFPs. Greater engagement with AFP boards could help, assuming that they take their fiduciary responsibilities seriously. In principle, recommendations for actions to address risks should be agreed upon with the boards, with some negotiation if necessary, on the basis that AFPs are more likely to implement actions to which they have agreed or – better still – conceived. The agreement of the records of meetings at which actions are agreed may sometimes be challenging. In seeking to influence change, the SP should seek to deploy a full range of “carrot and stick” incentives with sanctions waived or deferred if responses are favourable and the possibility of enabling “earned autonomy” – that is, reducing supervisory or regulatory burdens or constraints in recognition of good performance. The disclosure of process area net risk scores, along with the reasons for these scores, can also be used to underpin rewards and incentivise better performance through peer pressure.

In summary, the redesign of the risk model, once completed, should provide a robust means of determining the level of proportionate supervisory response. More guidance within the risk annex and authority may still be needed for a defensible methodology that proportionately aligns supervisory response with risk assessments to enable effective intervention where serious problems are found. For lesser problems, the SP could seek to make greater use of incentives for good performance, underpinned by the net risk scores. Regulatory change may be most effective in addressing market conduct issues through enhanced powers and changes to market dynamics.

