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## Outcome Based Assessments for Private Pensions Methodology with a Case Study for Costa Rica

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## **Outcomes and Risk Based Supervision in Pensions: Methodology with a Case Study for Costa Rica**

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June 2016**

### ***FIRST Initiative Funded Project***



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# Outcomes and Risk Based Supervision in Pensions: Methodology with a Case Study for Costa Rica

## Executive Summary

1. **This report illustrates a new methodology to develop an Outcomes and Risk Based Supervision (ORBS) framework for funded pensions with a case study of Costa Rica.** The approach was used in a FIRST<sup>1</sup> funded project in Costa Rica with the regulator and supervisor of pensions SUPEN<sup>2</sup>.

2. **The intention is to highlight an approach that may be useful in the region, and globally, to help agencies responsible for private pensions to focus on the long run outcomes they are seeking to achieve, identify the risks to these outcomes and implement the most effective solutions to these risks.** This is all done through a consistent framework that embeds the long run outcomes at the heart of the process – and so lends itself naturally to the greater focus on results, and Monitoring and Evaluation that are central to modern development projects<sup>3</sup>.

3. **The focus on Costa Rica also helps illustrate the approach in a country that has not typically been used as a case study.** This helps to broaden the range of case studies available for practitioners and expands the possibilities for ‘South-South’ learning. It also shows how the approach can be tailored to the specific characteristics of a country.

4. **The report starts with a description of the Costa Rican pension system. This provides the context for the case study.** It helps to illustrate the variety of Defined Benefit and Defined Contribution pensions that needed to be covered. It also identifies the wide range of different institutions involved in delivering good pension outcomes – and hence the ‘eco-system’ in which the Supervisor needs to operate effectively to improve outcomes for the benefits of pension savers in Costa Rica.

5. **The report continues with a description of the methodology used – first an Outcomes Based Diagnosis and Assessment (OBA) that provides an initial diagnosis and then feeds the Outcomes and Risk Based Supervision (ORBS) model developed with the supervisor SUPEN.** The two step process is important to first take a broad view of the causes of current pension outcomes and the key drivers of them in the future. This has a dual purpose. Firstly, to ensure that the regulator and supervisor understands the broad landscape – and can take this into account when developing its own strategy. The second is to maximize the benefits of a review for a country - to highlight other areas that may also need attention.

6. **The OBA and ORBS are linked by the core principle that policy and supervision should start with a clear focus on the long run outcomes sought from the pension system and the role of private pensions within the overall system.** There is then an assessment of the key challenges or risks to the long run objectives and then an assessment of the most effective solutions. The initial OBA can be thought of a diagnosis that will identify particular issues on which greater focus is needed – setting up a modular approach where issues are then addressed in great depth.

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<sup>1</sup> FIRST is the Financial Reform and Strengthening Trust Fund [www.firstinitiative.org](http://www.firstinitiative.org).

<sup>2</sup> The long-run outcomes from the project are to: *“improve risk management by the supervisor and pension funds to increase the security of the pension system; improve the chances for more diversified investment portfolios; and improve the funding of defined benefit plans with significant deficits”*.

<sup>3</sup> See for example the Global Delivery Initiative <http://www.worldbank.org/reference/GDI/index.html>

**7. Some of the issues in an initial Outcomes Based Diagnosis Assessment will be beyond the current remit of the regulator or supervisor.** But such agencies often have a unique advantage in understanding the drivers of pension outcomes – and can help create the case for changes in other parts of the system<sup>4</sup>. This could be reviewing the sustainability of publicly funded pillars, the robustness of data and ID, availability of long-run capital market instruments or the level of costs fees in a system. In the Costa Rican case SUPEN was a key player in trying to raise the risks to sustainability in the partly funded social security pillar which helped focus government attention on the issue. It also participated in efforts to enhance the contribution of pension assets to long-run development through broadening investment regulations. In the UK, the Pension Regulator advocated for greater focus on costs and fees which led to the relevant ministry introducing new fee caps in the auto-enrolment system. In Albania the supervisor highlighted mismatches in tax reliefs that acted against pensions that led to the Ministry of Finance harmonizing the tax rules. All these are examples of a regulator being proactive or ‘dynamic’ – on of the key attributes recommended by the International Social Security Association (ISSA) in the operation of Social Security Agencies<sup>5</sup>. Regulators who focus only on their precise remit risk having their efforts undermined by other parts of the system.

**8. Each pension system is different, and there is no blueprint of standard solutions to be applied to a particular country.** Instead a rigorous and coherent methodology such as that in the OBA and outcomes and risk-based supervision approach helps to link specific country context with global best practice and practical, implementable tools to make the approach work in practice. The key outputs were:

- **Output 1 – Diagnostic Report and Roadmap:**
- **Output 2 – Development of a risk based methodology:**
- **Output 3 – Revisions of Legislation, Regulation and Guidance; and**
- **Output 4 – Capacity Building**

**9. The Costa Rican pension system has a range of funded and unfunded defined benefit (DB) basic and occupational regimes; and mandatory and voluntary work-based defined contribution (DC) pension accounts.** There are over 2.5 million individual entitlements, with some people having more than one. Coverage for the population of 4.8 million is high relative to regional comparators<sup>6</sup>. Assets exceed US\$14 billion, over 26% of GDP<sup>7</sup>. The assets are growing rapidly and constitute a substantial market for financial instruments. The different elements are in Figure 1 - yellow boxes show DB entities and pink the DC entities (OPCs).

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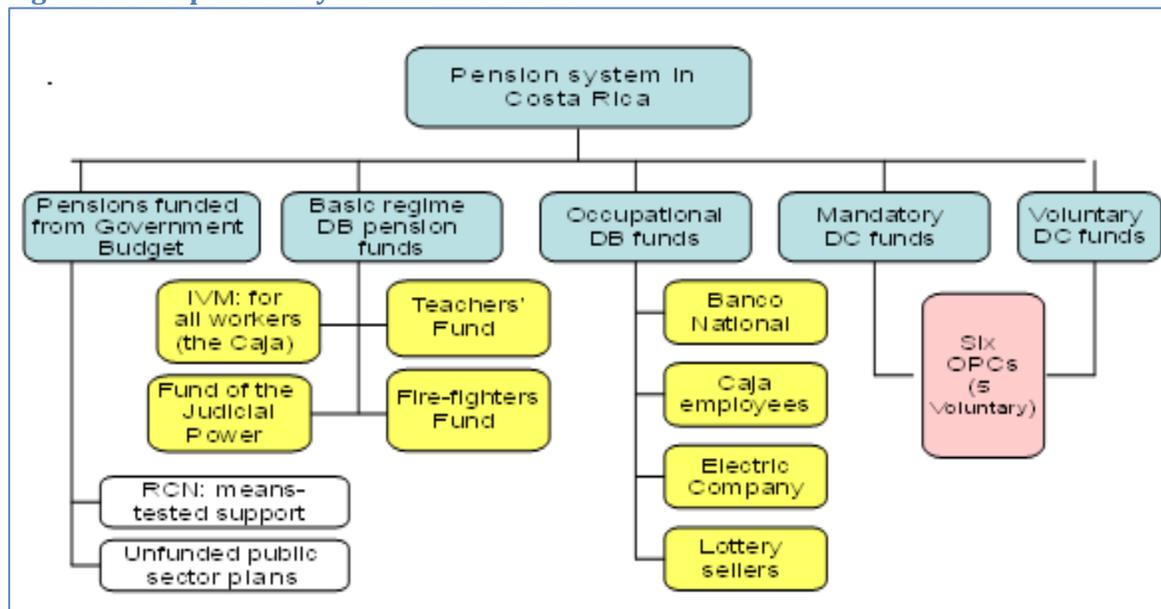
<sup>4</sup> The approach has been used in FSAPs (Albania and Suriname) and other FIRST projects (including Turkey, India, Albania and Guyana).

<sup>5</sup> International Social Security Association Guidelines on Good Governance, July 2014

<sup>6</sup>Rofman, Rafael; Apella, Ignacio; Vezza, Evelyn. (2015)“Beyond Contributory Pensions: Fourteen Experiences with Coverage Expansion in Latin America”, Washington, DC: World Bank

<sup>7</sup>December 2014 figures

**Figure 1: The pension system in Costa Rica**



10. **The Superintendencia de Pensiones (Supen) supervises all of the pension plans and pension funds.** Prior to the project it had been implementing some aspects of risk-based supervision. This is best demonstrated by the proactive way it tackled problems with excessive and abusive sales agent activity in 2012. Supen is relatively well resourced with high quality staff who were very enthusiastic in working with the project to improve supervision and regulation (itself one of the key requirements for a successful project). The project was started under Superintendente Edgar Robles and completed under his successor Alvaro Ramos.

11. **To deliver the project outputs World Bank staff, supported by independent consultants worked closely with a strong SUPEN core project team at all stages.** The Bank team undertook seven technical assistance visits over the period December 2013 to June 2015. During each visit they work-shopped methodologies and tools with Supen staff and engaged with representatives of the supervised entities and other key stakeholders. During 2015 they also delivered a wide range of training to improve Supen capability.

12. **The diagnosis phase identified the most important issues for Supen to address based on extensive discussions and analysis with a range of stakeholders.** There were important strengths in the Costa Rican market – not least the broad coverage of pensions, low fees (around 0.7% a year and falling), requirements to use custodians and a relatively well-resourced supervisor which could implement reforms. Key challenges were:

- Employer avoidance of full pension contributions, with a high tax wedge between earnings and general payroll costs, plus a lack of public understanding of the real costs of pension provision;
- Shallow domestic financial markets, coupled with some resistance to foreign investment, that constrain pension fund diversification of investment and hence risk;
- Market-led as well as supervisory incentives for pension fund administrators to implement short term investment strategies;
- Deficiencies in liability valuation by some DB pension funds coupled with a failure to tackle published or hidden deficits, putting the pensions of younger workers in jeopardy;
- Weaknesses in aspects of the governance of some pension funds;

- Supen credibility with some pension funds affected by a perception of insufficient consultation and relative inexperience of some staff but tempered by an acceptance of Supen's value and the benefits of some interventions;
- A lack of industry understanding of Supen's regulatory and supervisory strategy, with a perception that Supen has been trying to micro-manage rather than seeing the big picture;
- Institutional and legal barriers to more purposive and less detailed regulatory regime that would facilitate the effective implementation of risk-based supervision; and
- Difficulties with Supen enforcement arising from systemic delays and lack of enforceability relating to some significant matters.

**13. In developing the new risk-based approach further, the project priority was to:**

- Develop a robust methodology to enable decisions based on risk to be rigorous and defensible, and in particular to prioritize the highest risks to its supervisory objectives;
- Increase the focus on pension fund governance and risk management, both through inspection and guidance to entities;
- Improve understanding and enforceability of good practice expected of pension funds to improve the likelihood of compliance;
- Develop effective consultation with pension fund management throughout the process, making it more likely that pension funds will be run in line with Supen expectations;
- Respond to industry concerns about excessive regulation and highlight that risk-based supervision would not increase burdens overall when other burdens were removed.
- Enhance the organization structure of Supen so as to facilitate the focus on risks;
- Develop the skills needed to implement the enhanced methodology, with appropriate organizational changes; and
- Use lessons learned about risk and regulation of pensions in other countries.

**14. The High Level Design Report explained the overall objectives and design principles of supervision and identified the changes needed at every step in the value chain of delivering the objectives.** It identified, analyzed and mapped the risks in the system. It was agreed that the existing separate inspections of compliance with rules and inspections for risk assessment will be replaced by a single series of inspections that would assess governance and the management of risk – with a current total of around 40 inspections likely to fall to around 12-15.

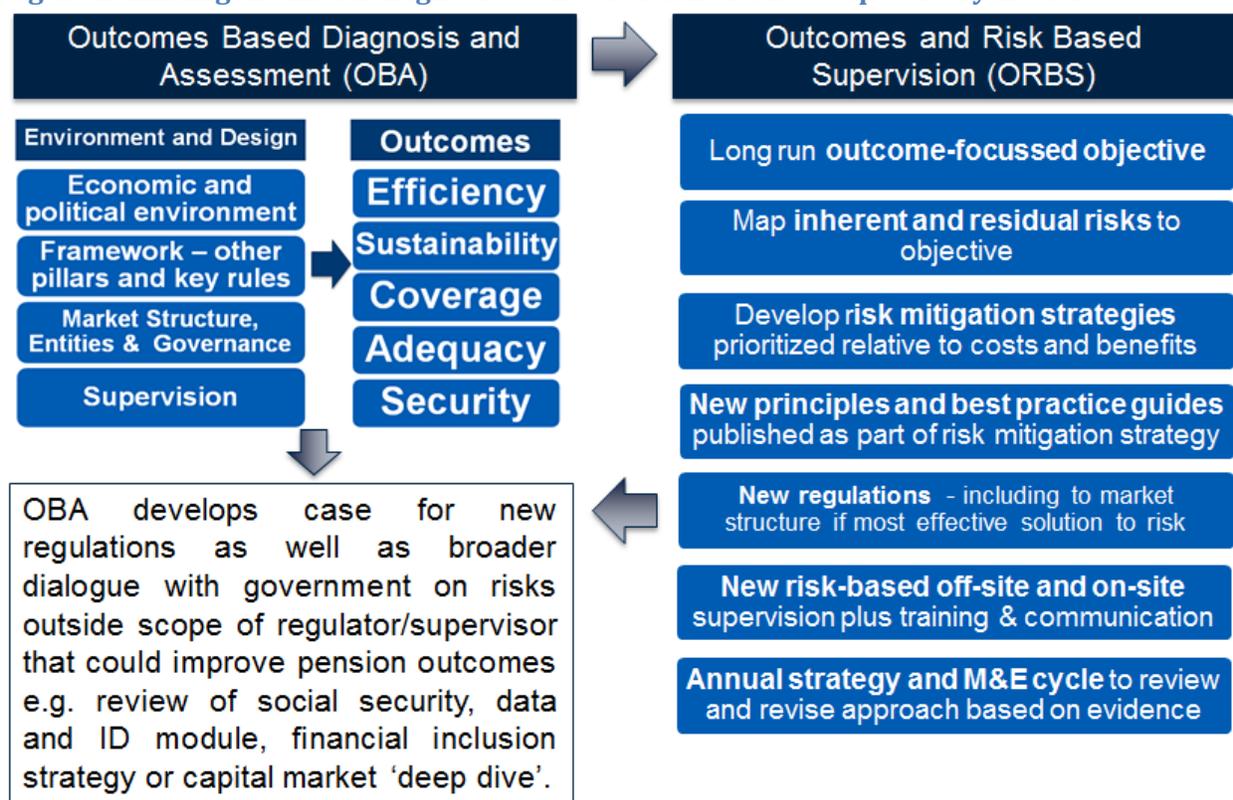
**15. Risk mitigation strategies were prepared for the 22 risks identified in the system – bringing together all possible interventions from regulation, communication, improving governance to on-site inspection.** These used a pro forma designed by the project team and were work-shopped with the project team. They were completed between technical assistance visits with comments from the project team. From these strategies Supen was able to identify 59 potential options for supervisory action to mitigate risk.

**16. The potential options were prioritized according to risk and Supen influence to provide a strategic plan for the following two years using a new strategic risk and planning process developed for Supen.** The new process brought together strategy, risk, planning and budgeting into an integrated cycle for the first time. It was piloted during the project. It allowed a clear line of sight from the long-run outcome based objective through to the work plan for each unit. In addition it linked yearly and quarterly reviews of risk with the delivery and implementation of team activities.

17. **The project team identified some organizational changes needed to implement risk-based supervision effectively.** Two key examples were a Strategy and Risk Unit, to co-ordinate risk analysis and planning, and a specialist team responsible for investment risks. These changes were made on an interim basis during the project<sup>8</sup>. A set of over-arching strategy documents were developed jointly by the project team and Strategy Unit which document the implications of the strategies for all aspects of Supen activity. These form part of annual planning cycle designed by the project team. This document includes success measures, which are augmented by high level performance measures developed by the project team and Supen.

18. **A picture of the overall project from diagnosis to deliver of the new risk based model shows how the first phase OBA supports the more detailed follow up work with SUPEN.** Supervisors and regulators are a critical part of the wider pension system. They help to contribute towards common outcomes. But equally they need to have a clear focus on their own role – typically on private pensions, and how they can improve their part of the pension system.

**Figure 2: Linking the initial diagnosis to the creation of a new supervisory model**



19. **Some options for mitigating risks, such as for solvency risk, are distinctive to that risk. However, there was also considerable commonality – particularly in relation to governance.** A number of risks can be primarily mitigated by strong entity governance, risk management and internal control. These includes many of the most serious risks. The approach aims to ensure that the entity’s board should, as part of their fiduciary duties, share Supen’s objectives of minimizing risk in the system. One of Supen’s core tasks is therefore to ensure that entity boards and management understand the key risks and how

<sup>8</sup> In the long run all permanent organizational changes require formal agreement by the Central Bank.

to minimize them proactively since this will be the most efficient way to mitigate risks. Clearly Supen also needs to act where funds do not follow this approach. But if fund governance is not improved and good funds are not given the opportunity to lead, Supen will risk trying to micro-manage and also deal with failures that could be avoided.

**20. Principles and Guides were created in six core areas that set out Supen’s expectations covering Governance, Solvency, Operational Risk, Investment, IT and Market Conduct.** They cover the main risks identified and the content in the risk strategies. They were developed in close conjunction between project team and Supen working groups, drawing on international best practice. Effective supervision in part depends on a shared approach with the entities being supervised. So strong consultation was encouraged and delivered from the start. The Principles and Guides critically also provide inputs into proposals for new regulation. In this way regulation and supervisory practice work in combination as part of the risk strategies. This aims to avoid a common issue where the regulatory policy and on-site supervision are not aligned.

**21. The Guides are also the center-piece of the new off-site and on-site inspection process – delivering an integrated approach from risk strategies through to supervisory interventions.** The new processes emphasizes good planning and a structured use of the assessment guides for preliminary risk assessment. The on-site approach has a much stronger focus on interviews with entity boards and senior management to ascertain the quality of governance. The way they manage risks is probed to understand potential gaps – with the areas to investigate aligned with the Principle and Guides. The questions and supporting on-site testing are documented in forms designed especially for Costa Rica. These also document how the off-site tests identified in the risk strategies dovetail with on-site inspection. This is part of the process flow for off-site inspection work-shopped and mapped during the project.

**22. The inspection forms document the rating of non-compliance with the principles and guides according to a new risk-focused assessment methodology.** This has been designed to replace the previous, unpopular, rules-based and overly detailed, approach to assessing additional risk capital requirements to place on OPCs. It also replaces the burdensome and incomplete risk calibration approach previously developed within Supen. It provides a logical and publicly defensible means of determining the supervisory response to problems found.

**23. For some DB funds there is a severe mis-match between what is being promised and what is affordable. This is one of the most serious risks in the system.** The level of actuarial expertise employed by the funds varies and the actuarial methods are not fully up to date – for instance there are often no market-based measure of the liability. Actuaries may be influenced to use aggressive assumptions to minimize concerns about a deficit. These issues are compounded by the relatively limited actuarial capacity at Supen, particularly long-term experience of valuations. Hence, the project gave particular attention to raising actuarial capacity at Supen and delivering tools that could help change pension fund behavior.

**24. The project provided extensive input on solvency risk through five main outputs:**

- **The Guide on solvency risk principles and best practices** (noted above) – translating the best practice brought by the project team into guidance relevant to Costa Rica;
- The creation of a new publication - a **‘Defined Benefit Landscape Report’** – that will for the first time set out all the key statistics for all the DB funds in Costa Rica. This is conceived as a way of establishing Supen’s authority, enhancing their knowledge base and identifying good and bad practice by enabling comparison with peers and encouraging discussion about the information;

- Proposals for a **revised actuarial regulation** on actuarial credentials, processes, methods and assumptions, with a clearer liability measure for solvency determination;
- **Guidance on the supervisory processes** needed to verify compliance with best practice, and aligned with the inspection methodology used for other risks; and
- Enhancements to Supen's **actuarial model** to be enhance Supen's assessments of solvency.

25. **The project team worked with Supen to review all pension regulations and identify unnecessary requirements and gaps in what was required.** A couple of important changes were made at the start of 2015. In addition there was a focus on actuarial and risk management and calibration regulations. Between them, the drafts being prepared for Conassif approval include the principles of governance and risk management, risk definitions provided by the project team and a summary of the new assessment methodology. The proposed risk management regulation will have all of the principles in the 6 areas highlighted above included. This will put the core of the supervisory model in one regulation. The project provided useful input to thinking on a revised investment regulation based on the principles and guides for investment.

26. **Improving legislative enforceability in financial services is a wider issue in Costa Rica that could not be fixed by this project.** The Supen staff are working with the other financial sector regulators to develop a joined-up approach that may have the best chance of success. These problems with enforceability are found in a number of countries. These are one reason for the approach adopted by the project - to improve performance not only with enforcement but with proactive work with pension entities and the use of 'soft power' such as the new DB Pension Landscape Publication. Ensuring a more effective court system for financial services issues could be an important area for future engagement in Costa Rica.

27. **Becoming risk-based is as much an attitude of mind as a collection of tools and techniques.** The project sought to develop the capacity of Supen to take RBS forward in a sustainable manner by involving Supen managers and staff throughout. Hence, the whole project can be seen as capacity building. Some of the workshops included a particularly strong training element, for instance, sessions on governance, investment and actuarial issues. More formal training was delivered through four in-depth training courses and four presentations to Supen staff. These events focused on raising understanding and developing capability in particular in relation to governance, investment and solvency in a highly interactive way.

28. **Communicating with, and educating, pension fund management about their role in reducing risk in the system was also a priority.** Meetings were held with the DC operators and DB funds during each technical assistance visit, at which the concepts, rationale and implications of RBS, especially its focus on governance, were explained. The DB funds also focused on raising awareness of best actuarial practice. There was useful feedback from these meetings that helped improve the final product – for example the core supervisory principles and guides. Conassif and the Central Bank, as key stakeholders were also given considerable attention with explanatory meetings with one or other (or both) during nearly every visit.

29. **The four main outputs of the FIRST project have been delivered - with strong communication from the start and a very proactive and positive engagement from Supen throughout.** Over 100 reports, presentations, training sessions or commentaries were delivered throughout the report, with over 2,000 pages of inputs. The key outputs include – the diagnostic report and OBA, the high level design and summary of the new model, risk strategies, principles and guides, off-site and on-site supervisory procedures and documentation and training courses.

30. The risks to Supen’s outcomes-focused objective were mapped and strategies developed to mitigate them. A new integrated strategic risk, planning and budgeting process to make better trade-offs between different activities was developed. The staff, and the industry, have had their ability to understand and implement the new approach raised. There will be important challenges in the future, but Supen now has the Risk Based tools to improve the effectiveness of the pension system and the prospects for the security and governance of pensions, funding in DB plans and improve investment strategies and diversification as the market develops in the future.

31. Achieving this will require consistent implementation of Supen’s new cycle.

Figure 3: Supen’s new strategy and risk cycle



## Chapter One: Background on the Project and the Costa Rican Pension System

### The project context and terms of reference

**1.1 The impetus behind the project was a desire by the Superintendent of Supen to implement risk-based pension supervision in Costa Rica, as part of a wider development of risk based approaches in the country.** There were a number of drivers. One was to ensure that the financial and operational requirements placed on pension fund management entities reflected a consistent and profound assessment of risk. Another was a desire to develop a forward looking and proactive approach. Tackling poor governance or under-funding of promises at a number of Defined Benefit funds were other drivers.

**1.2 Modern risk based supervision for pensions this project can be seen as resting on six main pillars. These provide a methodology to create a country-focused solution rather than an externally imposed blue-print.** These six pillars are: **i)** Start with a long-run outcome focussed objective for the supervisor; **ii)** focus on key system-wide and entity risks; **iii)** use a range of tools to assess and understand risk and solutions – including quantitative tools; **iv)** develop pension fund governance and risk management as a central way to reduce risks; **v)** ensure risk-based selection of entities and subjects for supervisory focus; and **vi)** prevention and remediation first with sanctions and enforcement for persistent or critical issues.

**1.3 Risk-based supervision (RBS) of pension fund has been identified by the International Organization of Pension Supervisors (IOPS) as an important part of the supervisory toolkit and it is required by the IOPS Principles of Supervision<sup>9</sup>.** IOPS define RBS as: “a structured approach that focuses on the potential risks affecting pension funds and plans, and the evaluation of financial and operational measures that can be put into place to mitigate those risks.” Costa Rica is starting the accession process for the OECD – and its pension system will be assessed against the OECD/IOPS standards. This project will hence help the pension part of the accession process.

**1.4 In addition to the potential benefits of risk based supervision, the project was motivated by the limitations of an exclusive focus on compliance with the existing set of rules and regulations.** Limitations include a lack of proactive attempts to identify or address risks not covered in current regulations and often regular and detailed checks including on-site supervision on all areas of law and regulation even if the potential for detriment is very low. On the other hand there are some areas even within an RBS approach where strict compliance is essential – for example in the use of a custodian to safeguard assets.

**1.5 Given these important drivers a project was therefore agreed and funded by the First Initiative to support the implementation by Superintendencia de Pensiones (Supen) of risk-based supervision.** It was agreed that the project would deliver:

**Output 1 – Diagnostic Report and Roadmap:** An outcomes-based diagnostic report and a road-map to advise on how the current state of development of risk-based supervision should be further adapted to local circumstances and outlines the recommended policy/regulation changes.

**Output 2 – Development of a risk based methodology:** Support to SUPEN in the drafting of guidelines on technological infrastructure support, a methodology for calibrating risks, options for the re-

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<sup>9</sup>IOPS Working Papers on Effective Pensions Supervision, No.16 “Structure of Pension Supervisory Authorities and their approach to Risk Based Supervision”, July, 2012.

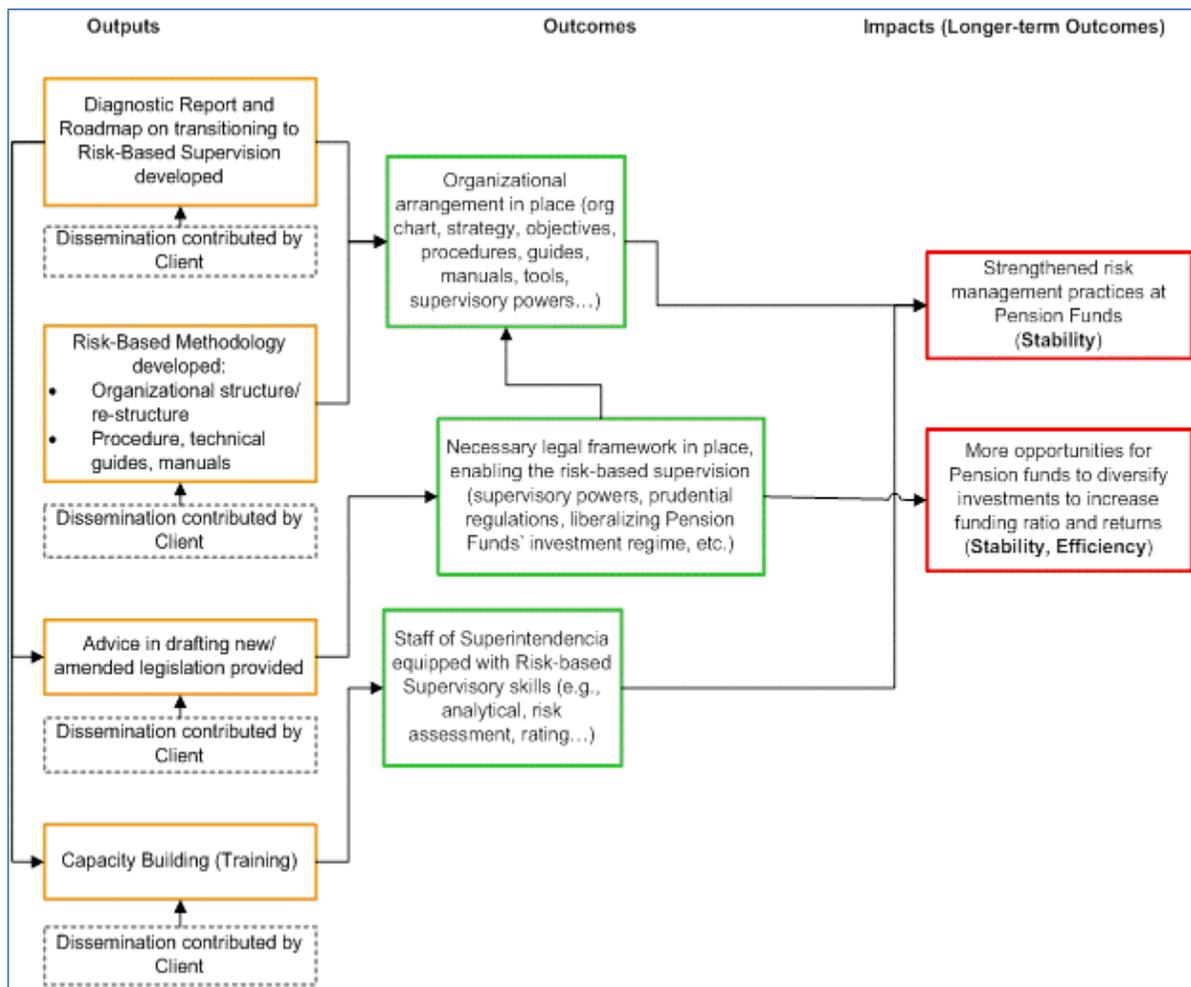
organization of supervisory functions, revised procedure manuals, and other guidance notes drawing on experience in projects in other jurisdictions.

**Output 3 – Revisions of Legislation:** Proposals for revising legislation to help mitigate identified risks that are currently outside the remit of the SUPEN, as well as facilitating the implementation of risk-based supervision.

**Output 4 – Capacity Building:** Delivery of a tailored program of training on the concepts, methodologies and practice of risk-based supervision, as adapted for Costa Rica, to the staff of the SUPEN.

1.6 **The outputs deliver a set of outcomes and impacts.** The final impacts are to: *improve risk management by the supervisor and pension funds to increase the security of the pension system; improve the chances for more diversified investment portfolios; and improve the funding of defined benefit plans with significant deficits.* The way these outputs combine together to contribute to achieve these results is illustrated in Figure 4.

**Figure 4: The FIRST results chain for risk-based pension supervision in Costa Rica**



## The road-map for the project

**1.7 The project comprised seven technical assistance visits to Costa Rica by members of the project team<sup>10</sup>, plus preparation and reporting between visits, from December 2013 to June 2015.** Figure 5, below, illustrates the project road-map. In addition to the existing work of Supen which had to continue in parallel, there were the following strands to the work and deliverables:

- The project diagnosis phase including outcomes based diagnosis and assessment, reviewed the risks to the desired outcomes of the pension system, examined the strengths, weaknesses, opportunities and threats in the system and Supen's supervision, and established the road-map;
- The high level design phase which included the establishment of outcome-focused regulatory objectives and principles and a mapping of the risks identified in the system;
- The design of new tools to help Supen to mitigate risk, including:
  - risk strategies;
  - corporate planning tools;
  - guides of principles and best practices for governance and risk management
  - agreement on the content of supervisory guidance in lieu of a manual
  - a risk assessment model
  - a report on defined benefit plan funding and investments for publication
  - a model to estimate actuarial liabilities for the defined benefit funds
  - proposals and advice on associated changes in pensions regulation
- Capacity building and training of Supen staff coupled with discussion, review and communication within Supen; and
- Communication with and education of board members and managers of the supervised entities and other key stakeholders.

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<sup>10</sup>Will Price, World Bank Group, John Ashcroft, Leendert van Driel and Evan Inglis, Senior Consultants, supported in later visits by a locally employed actuary Ronald Cartin.

Figure 5: The Project Roadmap

	Dec 13	Feb 14	Jun 14	Sept 14	Jan15	Apr15	Jun15	
Maintain existing regulatory and supervision work of SUPEN – with gradual shift away from high cost compliance activity with little value added 								
<b>Diagnosis Visit:</b>  <ul style="list-style-type: none"> <li>•Objectives</li> <li>•Risks</li> <li>•Governance</li> <li>•Indicators</li> <li>•Gap analysis</li> <li>•SWOT analysis</li> <li>•Consultation</li> <li>•Detailed Roadmap and Next Steps</li> </ul>	<b>Objectives&amp; Regulatory Principles</b>  <ul style="list-style-type: none"> <li>•SUPEN Objectives</li> <li>•Principles of Supervision</li> <li>•Values/style</li> <li>•Outline Model</li> </ul>	<b>High Level Design and risk maps</b>  <ul style="list-style-type: none"> <li>•Overall model</li> <li>•Strategy and Risk Process</li> <li>•Risk analysis</li> </ul>	<b>Risk Strategies</b>  <ul style="list-style-type: none"> <li>•Finalize Strategic Process</li> <li>•Develop risk strategies</li> <li>•New actuarial approach</li> </ul>	<b>Priorities Principles &amp; Guides</b>  <ul style="list-style-type: none"> <li>•Review strategic risk process</li> <li>•Agree risk strategies</li> <li>•Start principles, guides and regulations</li> </ul>	<b>Principles Guides Regulation Training</b>  <ul style="list-style-type: none"> <li>•Review principles and guide</li> <li>•Review regulation</li> <li>•Actuarial report</li> <li>•Actuarial model</li> </ul>	<b>Training, testing regulation &amp; reports</b>  <ul style="list-style-type: none"> <li>•Interview Training</li> <li>•Final regulatory input</li> <li>•Reports internal and FIRST</li> </ul>		
	Organization al design and skill implications	Develop training plan for actuarial, investment, governance and implementation		•Training sessions: actuarial, investment, governance, interviewing and implementation				
Internal and External Discussions	Internal discussion, review and communications							
	External discussions, consultation (DB&DC, CONASSSIF, Central Bank)							

1.8 The over-arching aim for the project was to work with the Supen Core Team<sup>11</sup>, supplemented by other Supen staff as appropriate, to develop the project outputs together. In this way the outputs would be sure to reflect the realities of Costa Rica and be ‘owned’ by Supen. Therefore each technical assistance visit involved workshop sessions with relevant Supen staff, often in parallel to develop the various outputs. Supen working groups undertook more detailed developmental work between the visits. The visits also included meetings with the supervised entities to help raise their understanding of key issues such as governance and professional actuarial practice as well as receive feedback. Presentations or training courses were provided to the wider group of supervisory staff, or indeed all Supen staff.

1.9 The structure of the report broadly follows the road-map structure, in line with the terms of reference. Chapter 1 provides the context. Chapter Two reviews the diagnosis. Chapter Three sets out the new Supervisory model. Chapter Four covers the supervisory approach for on-site and off-site work. Chapter Five covers revisions in legislation, regulation and guidance. Chapter Six reviews the capacity building activities and Chapter Seven concludes.

## The pension system in Costa Rica

1.10 The pension system in Costa Rica comprises the following pension plans and funds, illustrated in Figure 6:

<sup>11</sup>The SUPEN core team was led by Patricia Abarca Rodriguez and included Myriam Morera Guillen, Andrea Guevara Conejo, Johnny Monge Mata, Gerardo Delgado Vargas, Juan Jose Marin Matamoros, Oldemar Castro Garcia, Jose Arias Gonzalez, Nelly Maria Vargas Hernandez with Rafael Alberto Chavarría Delvó and Daisy Céspedes López on the Solvency issues, all under the leadership firstly of the Superintendente Edgar Robles Cordero and Intendente Mauricio Avila Valverde and then the new Superintendente Alvaro Ramos.

- Relatively small means-tested benefits for persons aged 65 or over who do not belong to the funded regime, see below, which are funded from the National budget<sup>12</sup> and for which around 35% of persons aged 65 or over are eligible.
- Some legacy public sector pension plans funded from the National budget for older retirees who belonged to these schemes before they were closed to new entry. With one exception these plans have closed for over 15 years.
- A funded defined benefit pension plan administered by the Costa Rican health and pension agency (the Caja Costarricense de Seguro Social – the ‘Caja’) called the IVM<sup>13</sup>. This pays pensions to all retired workers in the scheme aged 62 or over (male) and 60 or over (female)<sup>14</sup>, with at least 20 years of contributions, according to a formula based on their years of contributions and salary during their last 20 working years<sup>15</sup>. All employees in Costa Rica who are not members of another ‘basic regime’ are required to belong to the IVM with employer contributions of 4.92% of salary, employee contributions of 2.67% and State contribution of 0.41%. In practice workers in the informal sector commonly are not covered and the scheme covers just 62.6% of eligible workers and just over 50% of retirees who are aged 65 or over. The Caja is constitutionally separate from the Government and has the power to issue its own regulations governing the plan and its administration.
- Funded pension ‘basic regime’ alternatives to the IVM for teachers, the judiciary and fire-fighters (the last being closed to new entry). These provide more generous benefits than the IVM in exchange for higher levels of contribution. These funds are administered by separate pension fund entities and are established and governed by their own separate legislation and regulations.
- Work-based pension funds, complementary to the IVM, which offer defined benefits funded by employer contributions. These cover employees of the Caja, the largest State-owned bank (Banco Nacional), lottery ticket sellers and the State-owned electricity company. The latter two out-source administration to other pension fund entities.
- Mandatory work-based defined contribution (DC) pension accounts established by Law 7983 of 2000<sup>16</sup>. Employers must contribute 4.25% of salary<sup>17</sup> on behalf of all workers (who are not in a basic regime other than IVM). This regime is currently administered by six licensed pension fund administration companies (OPCs)<sup>18</sup>. Mandatory pension funds have over 1 million affiliates and assets equivalent to over US\$7.7 billion, over 15% of GDP<sup>19</sup>. Prior to the establishment of mandatory DC funds there were higher contributions to the IVM and higher benefits were accrued. So the individual accounts effectively replaced a portion of the IVM pension.
- Voluntary pension funds managed by the OPCs<sup>20</sup>. These have fewer restrictions than the mandatory funds – for instance all benefits can be taken in cash from age 57 and there is provision for making withdrawals after 5.5 years. These funds can be joined by individuals, whether or not contributing to a mandatory pension fund, who may be signed up by employers through a collective agreement. This is a very small sector and includes funds established before the current legislative regime that have

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<sup>12</sup>Some of the funding comes from ear-marked tax revenues.

<sup>13</sup>El Régimen de Invalidez, Vejez y Muerte (IVM)

<sup>14</sup>Actually 61 years and 11 months, and 59 years and 11 months respectively.

<sup>15</sup> There are also disability and survivors’ pensions. Within this regime a minimum pension is set equivalent to around 40% of the minimum wage payable to workers aged 65 or above with at least 20 years of contributions. There is also a minimum disability pension.

<sup>16</sup>Ley de Protección al Trabajador (Ley 7983).

<sup>17</sup>Strictly speaking the contributions are 1% by the employee and 3.25% by the employer.

<sup>18</sup>Operadora de Pensiones.

<sup>19</sup>March 2015 figures

<sup>20</sup>All but the OPC owned by the Caja offer them in practice.

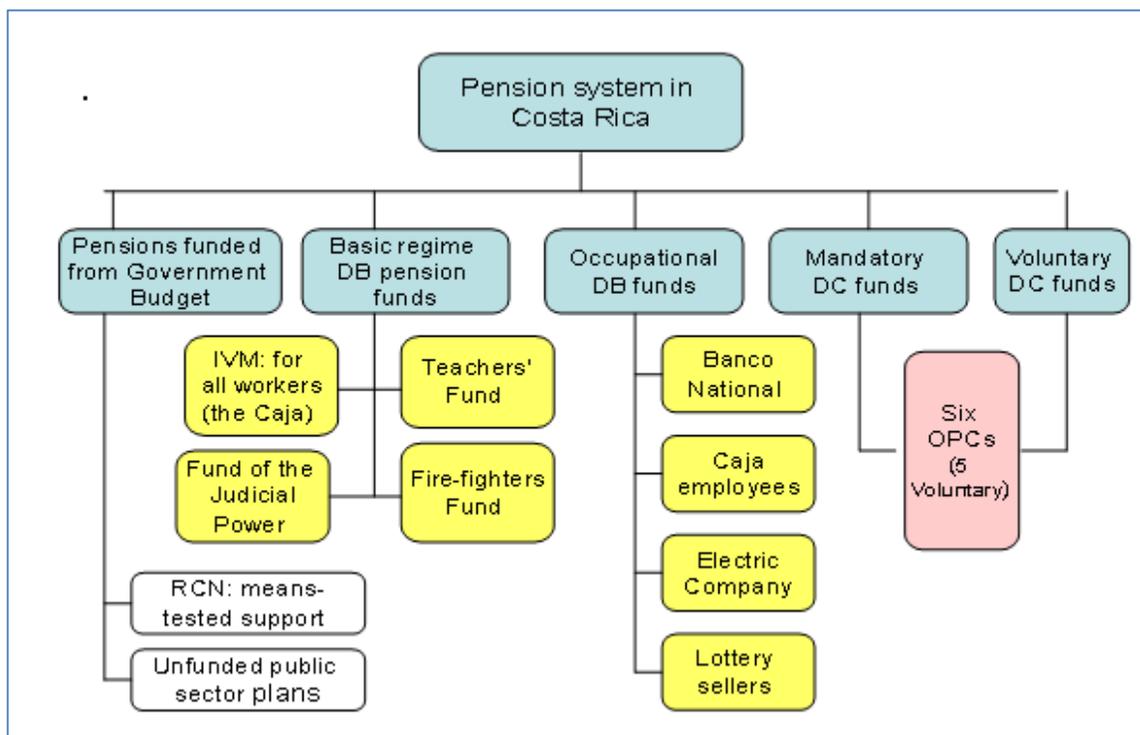
now transitioned into the new regime. Tax benefits are limited (and inconsistent with those applying before 2000 to affiliates' detriment). OPCs are allowed to offer up to two Colones-denominated funds and two Dollar-denominated funds.

1.11 **The defined benefit funds are overseen by top level boards (Junta Directivas) appointed according to their governing legislation or rules.** The appointees include high levels of representation from employees, commonly nominated by trades unions, and may include other political appointees. Most funds have separate executive officers – although the Judiciary Fund uses staff of the Judicial Power without separately accountable executives. General pension legislation does not apply to the basic regimes, which have their own regulations. However, some of the requirements of general legislation such as having investment and risk committees are followed.

1.12 **DB plans are contributory and benefits are based on final average pay and service with an employer.** Full or partial inflation-protection is provided once a participant retires. The retirement age is typically 65 but varies by plan. The retirement age of the complementary programs is linked to the retirement age of the social security system (IVM). Disability and death benefits are provided. If a member leaves before retirement they receive their own contributions with interest and, in some cases, a portion of the employer's contributions made on their behalf.

1.13 **The funded ratio for currently accrued benefits is not typically reported so funded status is not clearly identifiable.** However, funded status where it can be deduced varies widely with some plans projected to cover their promised benefits using reasonable return assumptions and others where contributions would have to be increased significantly. Contributions are defined by law as fixed percentages of payroll and are not adjusted based on deficit amounts. Benefits are more likely to be adjusted (typically by reducing the cost of living adjustment below the inflation rate) based on the actuary's recommendation in order to improve funding status.

**Figure 6: The structure of the Costa Rican Pension System**



**1.14 Some key details about the OPCs and the pension funds they administer are:**

- There were originally nine OPCs but there has been consolidation of the smaller OPCs over time. Of the surviving OPCs, one, a subsidiary of the Caja, was established by legislation. Four of the others are owned by banks, two State-owned banks (Banco National, and Banco de Costa Rica), a syndicalist mutual bank (Popular) and subsidiary of a Colombian Bank (BAC). The sixth OPC (Vida Plena) is owned by the administrator of the Teachers’ (DB) Pension Fund.
- Employees who become eligible to join a mandatory pension fund can choose one fund (only) from the funds of the six OPCs. Those who do not make a choice default to the Banco Popular Pension Fund, or if they are teachers to Vida Plena Pension Fund. A few employers have, as allowed by law, concluded collective affiliation agreements with OPCs whereby all their employees join that OPC’s fund. Where workers do not make a choice over 90% go to the default<sup>21</sup>. This mirrors international experience where over 99% of workers in the UK’s ‘NEST’ are in the default fund, over 90% in Sweden’s PPM and over 90% even in a corporate plan for financial service workers such as the UK HSBC employer plan.
- The OPCs use regulated sales agents, licensed and regulate by the Supervisor, to encourage affiliates to transfer between funds. Transfers are currently running at 1-2% a year of total accounts.
- Contributions are collected by the Caja, along with contributions to other social welfare programs including the IVM, and are then re-allocated to the relevant OPC. Because contributors to mandatory pension funds make lower contributions to the IVM they will receive lower IVM pensions upon retirement.
- OPCs are funded by regulated commissions drawn from affiliates account balances. These are currently capped at 0.7% of funds under management. There are plans to reduce them further in

<sup>21</sup>2014 figure

future years. The commissions charged by the Caja-owned OPC must additionally be set to generate a profit no greater than specified in Law.

- OPCs are required by law to hold a minimum level of capital as own funds. Regulations specify the level of capital in relation to the assets of the pension funds and require additional capital to be held calculated on a risk basis. Currently the risk-basis relates to the OPC's score against a Supen questionnaire of some 400 questions relating to operational and IT risk, along with some aspects of governance. There is also a connection to the volatility of the instruments in which own funds are invested. This is not good practice – and is one of the elements that would change following proposals from this project.
- OPCs are required to use an independent licensed custodian to hold pension fund securities. The funds in individual accounts are guaranteed by the OPCs in the event of theft. If the OPC cannot cover such a liability the OPC would be terminated. The Government would then make good outstanding losses.
- Benefits from mandatory pension funds are payable at the same retirement age as the IVM. Payment is by: life annuity provider or guaranteed by a regulated life insurer; income drawdown regulated according to a formula related to the remaining balance in the individual's account; or by lump sum where they are below a specified threshold.
- The funds also pay compensation in the event of terminated employment, some of which is paid as ('jubilee') bonuses every five years during employment, for which separate funds are maintained. Death benefits and disability benefits are also payable.
- OPCs are required to have a governing board of at least five members of recognized integrity. Two must have education and experience in financial operations. At least 40% of the members must be independent of the parent company. The Law also requires a General Manager, internal and external auditors.

1.15 **The assets in the pension system are growing rapidly and constitute a substantial market for financial instruments.** The Costa Rican market is, however, limited to a small, illiquid, equity market and bonds sold by governmental institutions, most notably the Government itself. These are denominated in US Dollars as well as Costa Rican Colones. Pension funds subject to general pension legislation are permitted to invest up to 25% outside Costa Rica<sup>22</sup>. Some of the basic regimes are prohibited by their regulation from investing abroad. General pension regulation places limits on the assets a pension fund may hold from any one issuer or issuance, including a 60% limit on Costa Rican Government bonds (a limit that has been progressively reduced to promote diversification). There is a 5% limit on self-investment.

1.16 **Figure 7 below, provides a break-down of pension fund membership and assets.** It should be noted that many affiliates belong to more than one fund – in particular all members of mandatory pension funds belong also to the IVM.

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<sup>22</sup>This percentage may be raised by Conassif, see below, if better yield can be achieved internationally.

**Figure 7: analysis of pension fund membership by type and sector (December, 2014)**

Sector	Affiliates/000s	Beneficiaries/000s	Assets \$US millions
Other unfunded regimes[2]	11	59	0
IVM (funded DB) [3]	1,290	202	3,731
Other funded basic regimes	89	4	3,136
Occupational complementary DB [4]	75	18	1,269
Mandatory DC	1,008 <sup>23</sup>	-	6,630 <sup>24</sup>
Voluntary DC	50-141 <sup>25</sup>	-	411
Total (excl voluntary DC)	2,473	385	14,166

Source: Supen data and the Pension Finance Report  
 [1] Monthly Statistical Bulletin: June 2014 RNC.  
 [2] Data provided by the Finance Ministry to August 2014  
 [3] Data for July 2014, latest data reported by the entity  
 [4] Excludes one very small closed fund

1.17 For the Defined Benefit sector, the FIRST project developed for the first time a comprehensive report on the sector. This will be published to improve transparency and as a use of 'soft power' to show different funds where they are using approaches and assumptions that are well out of line with best practice. Figure 8 sets out information on the DB funds in more detail.

**Figure 8: Solvency and Funding Status of DB Funds in Costa Rica: Preliminary Estimates**

Million colones as at Dec 2014	PV Future Benefits (Actives)	PV Future Benefits (Inactives)	Assets	PV Future Contribs	Funding Ratio (Present Members)
<b>Basic Plans</b>					
Poder Judicial (Judicial Power)	3,265,389	677,999	309,423	912,285	31%
Capitalización Colectiva Magisterio (Teacher's Plan)	2,601,910	20,142	1,002,039	1,553,927	97%
Bomberos (Firefighters)	8,433	37,191	43,345	3,819	103%
<b>Complementary Plans</b>					
Empleados del Banco Nacional de Costa Rica (National Bank)	419,001	94,872	134,823	238,788	73%
Empleados del Instituto Costarricense de Electricidad (Electricity Institute)	259,640	72,872	225,504	112,186	102%
RECOPE (Oil Refinery)	-	24	32	-	129%
Empleados de la Caja Costarricense de Seguro Social (FRE) (Social Security Workers)	628,091	167,090	160,689	313,209	60%

<sup>23</sup>This figure is the number of contributing affiliates. The figure for all affiliates is 2.353 million.

<sup>24</sup>Figure does not include the assets of the redundancy compensation fund also administered by the OPCs.

<sup>25</sup>The number of affiliates in the most popular type of voluntary fund is around 50,000. When affiliates of all four types of voluntary fund are aggregated the total comes to 143,000 but the number of unique affiliates overall is much less.

Fondo de Jubilaciones y Pensiones de los Vendedores de Lotería (Lottery Workers)	30,122	6,386	10,200	31,097	113%
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Source: Actuarial Reports submitted to Supen by DB pension funds

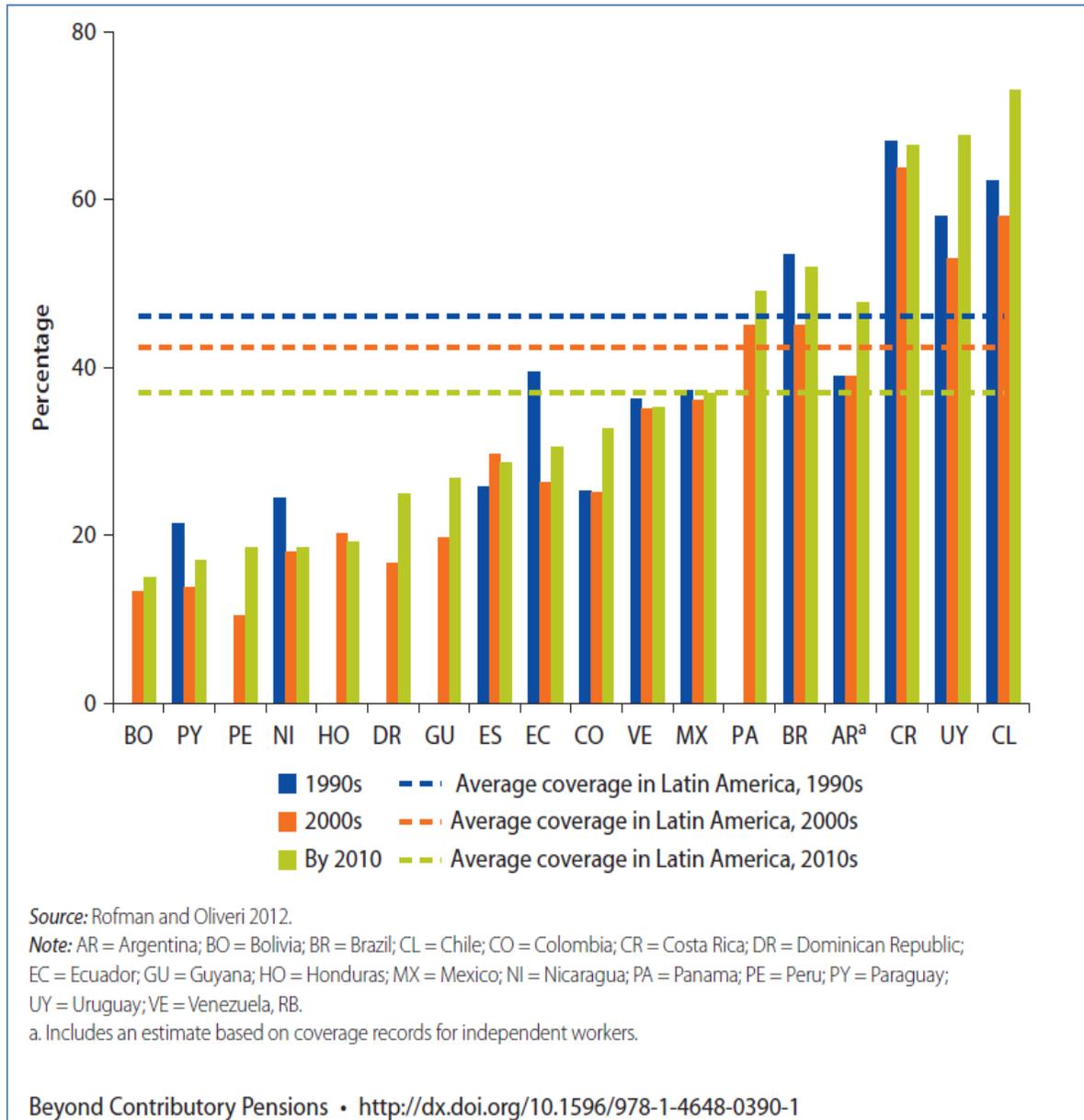
1.18 **The Superintendencia de Pensiones (Supen) was established in 1995. It is responsible for regulating and supervising the defined benefit and occupational plans and for supervising the basic pension funds.** This role of supervising Government-administered pension plans and funds is relatively unusual for a pension fund supervisor. Supen is headed by a Superintendente and Intendente (deputy) appointed by a Committee of Government nominees for five-year terms.

1.19 **Supen is an off-shoot of the Central Bank of Costa Rica, as are the separate supervisors of banks, insurance and securities.** All of them report to an umbrella body, the National Council for the Supervision of the Financial System, Conassif, which approves and issues regulations on their behalf. The Board of Conassif are appointees of the Central Bank and the Government.

1.20 **Supen’s organizational structure must ultimately be approved by the Central Bank but there are some flexibilities that allowed organizational changes to be made as a result of the FIRST project.** Supen is currently formally organized into a division responsible for defined benefit pension funds, a division responsible for defined contribution pension funds, a legal division, a policy and research division, an IT department and support services. The supervision divisions are in turn split between on and off-site inspection.

1.21 **Costa Rica has relatively broad coverage of pension contributions compared to its regional neighbors.** This is shown in Figure 9. Further details on the system and its regulation and supervision are included in the Outcome Based Diagnosis and Assessment (OBA) prepared as part of the diagnosis phase of this project.

**Figure 9: Economically active population that contributes to the Social Protection System, selected countries 1990, 2000 and 2010 (Costa Rica shown as CR)**



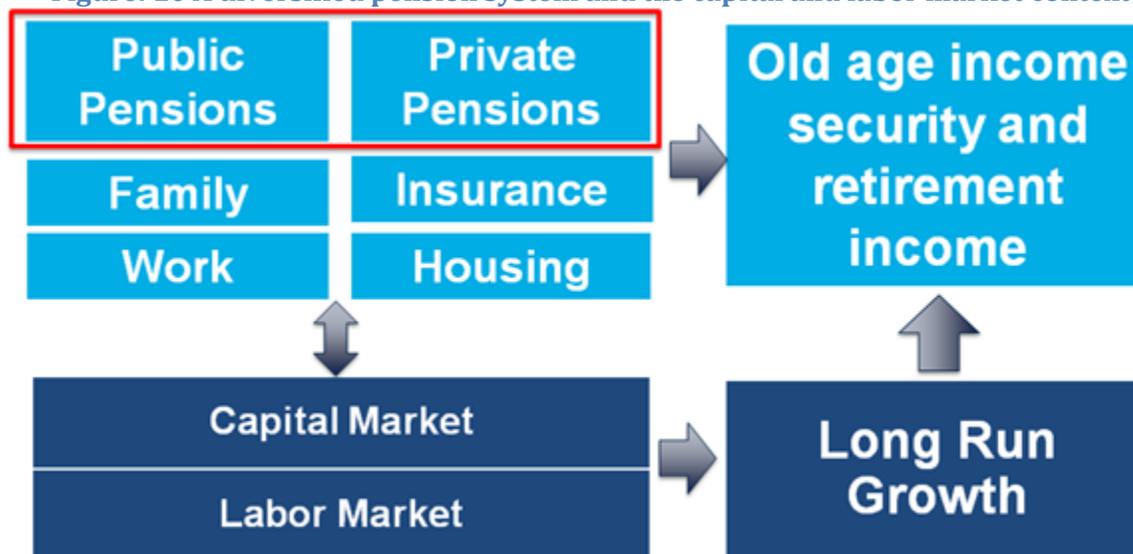
## Chapter Two: Outcomes Based Diagnosis and Assessment Report

### An introduction to the Outcomes Based Diagnosis and Assessment Report

2.1 **The diagnostic approach was organized around the Outcomes Based Diagnosis and Assessment framework for Pensions (OBA)<sup>26</sup>.** The OBA is an integrated framework that addresses issues ranging from strategic vision and initial data requests to implementation and monitoring and evaluation. It provides a structured approach for initial diagnosis and assessment that identifies the priority areas on which to focus in the rest of the project (or in follow up projects). The approach draws on a combination of data analysis and interviews with the lead agency, other parts of government and the external pension industry. Broad initial evidence gathering supports the initial diagnosis, and builds in internal and external communication from the start.

2.2 **The diagnostic approach recognizes that a diversified pension system is the most effective way to generate good outcomes.** Moreover, the overall pension system affects and is affected by the wider capital and labor market. The framework aims to provide a way for a reviewer to assess the current situation and develop options for reform or further investigation – without becoming unwieldy by seeking to cover everything. This is similar to the case in other areas where a reviewer may be looking at the bond market and hence must look at the role of the banking sector, but are not providing a comprehensive review of the banking sector itself.

**Figure: 10 A diversified pension system and the capital and labor market context**



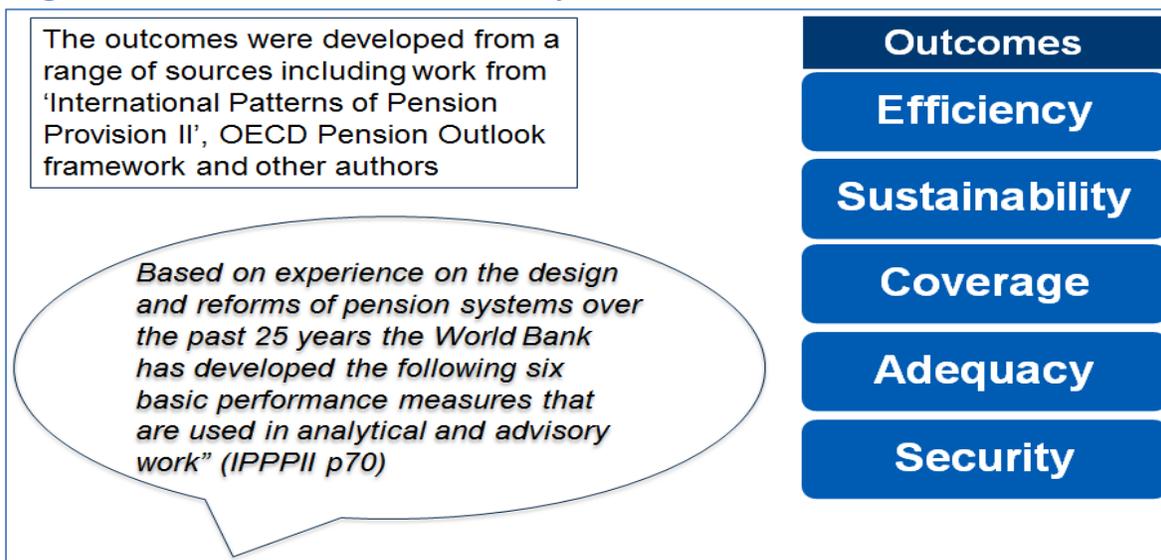
2.3 **Understanding and improving the 5 key outcomes of a pension system drives the OBA framework which focuses on how the private pensions system can be reformed to improve pension outcomes overall.** Wider issues beyond private pensions are covered to ensure coherence. For example, the appropriate contribution level for private pensions will depend on other provision – either from ‘social’ pensions, or from a social security system. Where issues are identified in the wider pensions

<sup>26</sup> The OBA framework was developed by William Price of the World Bank, John Ashcroft, independent consultant and former President of IOPS and Michael Hafeman, Chair of the Insurance and Pension program at the Toronto Centre – see ‘Outcomes Based Diagnosis for Pensions: A Handbook’ (2016, forthcoming) and ‘Outcomes Based Assessments for Pensions’, 2014 [http://siteresources.worldbank.org/FINANCIALSECTOR/Resources/OutcomesBasedAssessments\\_PensionsFinalReportMay28.pdf](http://siteresources.worldbank.org/FINANCIALSECTOR/Resources/OutcomesBasedAssessments_PensionsFinalReportMay28.pdf).

system that are beyond the scope of the specific project, recommendations are made to the authorities for follow up – and connections made with other parts of the World Bank Group who lead on these areas.

2.4 **The five pension outcomes are: efficiency, sustainability, coverage, adequacy and security.** These have been taken from the World Bank’s 2012 ‘International Patterns of Pension Provision’<sup>27</sup> among other sources. For each outcome a set of key features was developed. For some of the features, international standards exist—for example, the governance of pension funds. For others, no standards exist as yet—for example, the scale of bodies delivering pensions. Trade-offs between outcomes make reviewer judgment critical.

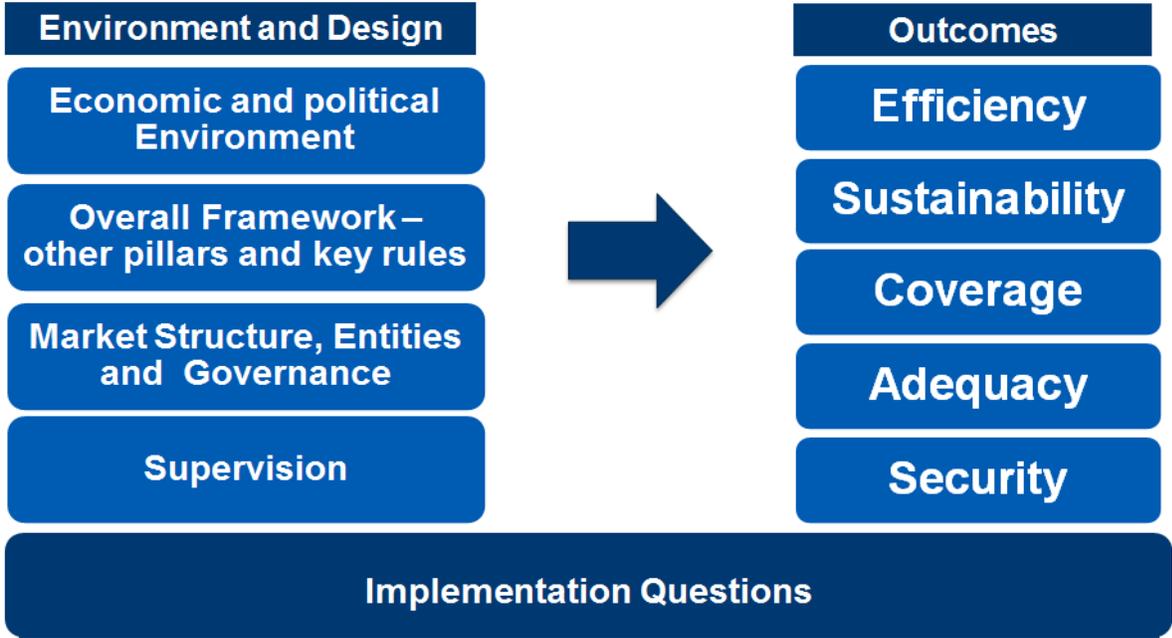
**Figure: 11 Main Outcomes of a Pension System**



2.5 **For each of the five outcomes a set of ‘key features’ were developed that are the areas against which a system is reviewed.** These key features obviously focus specifically on design issues such as pension legislation and supervision but they also look at wider areas. These include the economic and political environment – for example whether a country has the basic macroeconomic stability to develop a private pension system – or whether there is a high degree of informality in the labor market. The key features also relate to the market structure of a pension system, the entities in it and their governance. This reflects the importance of the way in which the pension value chain is delivered – from initial contribution to final payout – and who delivers different elements – from record keeping and account administration to investment strategy and execution.

<sup>27</sup> Pallares-Mirralles, M., C. Romero, and E. Whitehouse. 2012. “International Patterns of Pension Provision II: A Worldwide Overview of Facts and Figures.” World Bank, Washington, DC. Note that IPPPII sets out six main outcomes or indicators of performance – with two for efficiency that are combined in the OBA framework.

Figure 12: Linking the key features to review with the pension outcomes



2.6 In practical terms the diagnosis phase then addresses each key feature, setting out the current state, making any recommendations for action and giving each area a risk rating. Figure 13 shows each of the individual key features reviewed – which are accompanied by a reviewer assessment sheet and a background sheet that describes each of the key features in detail and shows where they link to international pension and insurance standards (if they do) or to other reports and guidance if there are no standards.

Figure 13: Detailed list of all the features covered in the diagnostic review

The key features driving private pension contribution to overall outcomes were developed through reviewing evidence, past reviews and international standards.		
<p><b>Efficiency</b></p> <ol style="list-style-type: none"> <li>1) Impact of Scale</li> <li>2) Member-focused governance</li> <li>3) Expertise of governing body</li> <li>4) Robust strategy process</li> <li>5) Role of advisors and investment managers</li> <li>6) Optimal long-term investment strategy and appropriate limits</li> <li>7) Fair, efficient, deep and transparent capital markets</li> <li>8) Competition, choice and transfers</li> <li>9) Good communication and disclosure</li> <li>10) Cost-effective distribution and intermediaries</li> <li>11) Cost control, caps and transparency</li> <li>12) Efficient transition to payout phase</li> <li>13) Efficient operational, recordkeeping and data management</li> <li>14) Reduce labor market distortions</li> </ol> <p><b>Sustainability</b></p> <ol style="list-style-type: none"> <li>1) Diversification among pillars/tiers</li> <li>2) Intended outcomes are realistic</li> <li>3) Understanding of intended outcomes and risks</li> <li>4) Political support</li> <li>5) Government costs sustainably funded</li> <li>6) Affordable employer and employee costs</li> <li>7) Effective and counter-cyclical adjustment mechanisms</li> </ol>	<p><b>Coverage</b></p> <ol style="list-style-type: none"> <li>1) Eligibility for participation</li> <li>2) Tax and financial incentives</li> <li>3) Mandatory, behavioral or social stimulus to participate</li> <li>4) Publicity and Education</li> <li>5) Breadth of providers' target market</li> <li>6) Enforcement</li> <li>7) Reducing incentives for labor market informality</li> <li>8) Building trust given economic and political history</li> </ol> <p><b>Adequacy</b></p> <ol style="list-style-type: none"> <li>1) Contribution levels and benefit accrual rates given income objective relative to other pillars</li> <li>2) Years of vested participation</li> <li>3) Controlling early access</li> <li>4) Portability</li> <li>5) Income flow until death</li> <li>6) Appropriate guarantees on income and returns</li> <li>7) Protection against pre- and post-retirement inflation</li> <li>8) Fair treatment of spouses and dependents</li> <li>9) Tax and financial incentives</li> <li>10) Publicity and Education</li> <li>11) Enforcing contributions</li> </ol>	<p><b>Security</b></p> <ol style="list-style-type: none"> <li>1) Consistently enforced business law regime</li> <li>2) Clear legal structures for pension entities</li> <li>3) Standards and professionals in accounting, actuarial, auditing and legal</li> <li>4) Data: economic, demographic and personal</li> <li>5) Risk management and internal controls</li> <li>6) Assets appropriately separated and ring-fenced</li> <li>7) Protection from Government policy reversal</li> <li>8) Independent reporting and whistleblowing</li> <li>9) Valuation of assets and liabilities</li> <li>10) Prudent funding of commitments, including provisions for risks</li> <li>11) Recovery plans supervised</li> <li>12) Investments are sufficiently secure, liquid and diverse</li> <li>13) Matching assets to liabilities and member life-cycle</li> <li>14) Fair and prudent use of surplus</li> <li>15) Wind-up and alterations</li> <li>16) Sponsor/provider guarantees and compensation funds</li> <li>17) Objectives of supervisor (IOPS 1)</li> <li>18) Independence of supervisor (IOPS 2)</li> <li>19) Resources of supervisor (IOPS 3)</li> <li>20) Powers of supervisor (IOPS 4)</li> <li>21) Risk-based supervision (IOPS 5)</li> <li>22) Supervisory proportionality &amp; consistency (IOPS 6)</li> <li>23) Supervisory consultation and co-operation (IOPS 7)</li> <li>24) Confidentiality of supervisor (IOPS 8)</li> <li>25) Transparency of supervisor (IOPS 9)</li> <li>26) Governance of supervisor (IOPS 10)</li> </ol> <p>Some IOPS Standards will impact other outcomes but are grouped against their primary impact</p>

**2.7 The OBA report then sets out the recommendations – and areas for further detailed assessment and investigation.** If the review was conducted as part of an FSAP then the recommendations flow into the prioritized list given to the Government across the whole financial sector. If the review is the first stages of a longer project with an implementation phase (as in Costa Rica), the recommendations then set the work plan for the remainder of the project. The OBA report provides input against each key feature and then an overall summary against each outcome. In nearly all cases the initial diagnosis and recommendations will be followed by the use of additional tools – so the approach can be seen as a ‘modular’ one. For example, in Costa Rica the initial diagnosis was followed by almost 2,000 pages of additional investigation and outputs. The identification of a particular gap – for example on investment regulation and expertise – led to the development of new regulations and a detailed training course for staff as well as the consideration of investment modelling tools. Similarly if issues were identified in social security there may be a need to use the World Bank’s ‘PROST’ modelling tool for further investigation. Problems with Data and ID could lead to the use of a more detailed Data and ID diagnostic. Gaps in the capital market could lead to a capital markets ‘deep dive’ and so on. But the important factor for the overall reform program is that the very broad range of potential problems have been compared in a structure diagnosis focused on long-run outcomes and making a prioritization in relation to risk and impact.

**2.8 The OBA framework is particularly designed to look at how to improve the contribution of the private sector to overall pension outcomes.** However, the diagnosis often comes across issues in public pensions, data and ID or wider capital market development that warrant further investigation or attention. In some cases the Government already has a reform program for public pensions – and the OBA report for the Albania FSAP, for example, made clear that finalizing the public reforms was the most

important near-term action before moving to expand the coverage of private pensions. Figure 14 highlights the kinds of recommendation on private pensions that can be made to help improve overall pension outcomes.

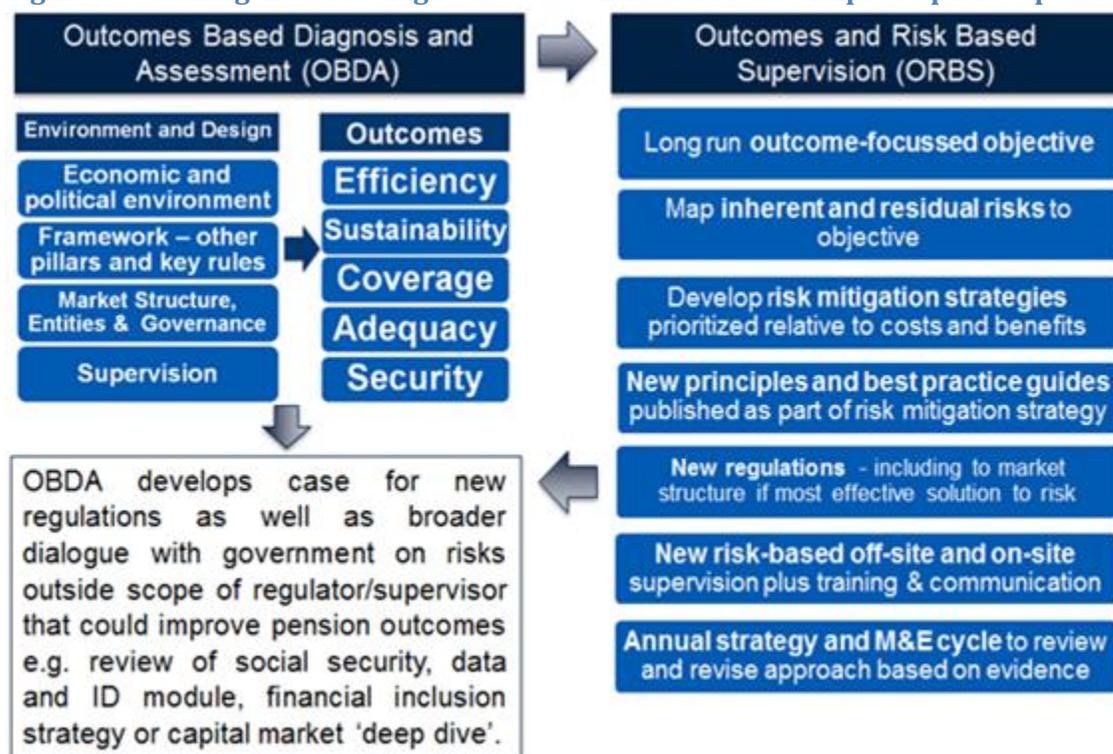
**Figure 14: Linking the OBA diagnosis to recommendation to improve private pensions**



**2.9 The focus of the OBA on long-run outcomes is deliberately designed to help a government or regulator think of their vision and mission in outcome-based terms.** So there is particular value in using the approach as part of a major reform and change program for a regulator and supervisor. The approach recognizes the central importance of implementation issues in achieving successful project implementation. Moreover, it is designed to help improve the annual and multi-year process of strategy and planning – seeking to align the strategy and finance operations around a common long-term outcome focuses vision which then flows directly into the monitoring and evaluation framework for an organization.

**2.10 The link from long-run outcomes to the vision of a regulator or supervisor helps to develop the standard risk based supervision (RBS) approach into one that is Outcome and Risk Based (ORBS).** The objective sets out what faces the risks. The OBA is not the only way to ensure this integration but it does make it particularly simple. The links between the initial OBA and the subsequent risk based supervision projects are shown in Figure 15. Note that whilst the term risk-based supervision is used, the conception employed here in the Outcomes and Risk Based Supervision approach is to look broadly at all potential solutions to the risk – including regulation and legislation – even if these may involve lobbying a government for changes that are beyond the control of the supervisor (as happened in Costa Rica).

Figure 15: Linking the OBA diagnosis to recommendation to improve private pensions



2.11 The OBA framework used in Costa Rica has been used in a wide range of private pension reviews – from Turkey and India to Guyana<sup>28</sup> and Albania<sup>29</sup> – either as part of a ‘one-off’ review like a Financial Sector Assessment Program (FSAP) or as the initial diagnosis for a longer project. The OBA review will often identify issues which are beyond the scope or powers of a supervisor. But in these case they can be used by a supervisor in its dialogue with Government – particularly where there are issues where changes could help improve pension outcomes.

### The OBA Diagnosis in Costa Rica

2.12 The review in Costa Rica followed the process set out above – with the stakeholder interviews being particularly important. These included meetings with:

- Every DC pension fund administrator and the four self-administered DB pension funds<sup>30</sup>, to hear their perceptions of risk in the system and to their entity, and how they manage these risks, as well as hear their views on the work of Supen (these were then repeatedly regularly through the implementation phase of the project);
- The Ministers for Finance and Social Affairs;
- A member of CONASSIF – the governing body for each of the financial sector regulators in Costa Rica;

<sup>28</sup> ‘Guyana Strengthens the Regulation of Insurance and Pensions’, 2014, World Bank, Washington DC, <http://www.worldbank.org/en/results/2014/07/09/guyana-insurance-and-pensions>

<sup>29</sup>See for example see the published [Technical Note on Albania](#) for the Financial Sector Assessment in 2014 which also outlines the methodology and presents the results for Albania. The initial recommendations from that work are currently being implemented in a separate FIRST sponsored project.

<sup>30</sup>In addition there are three smaller occupational pension plans that are administered by the largest pension fund administrator.

- The core project team in Supen<sup>31</sup> to discuss the pension system, its intended outcomes, risks and indicators, and to feedback emerging conclusions;
- The Superintendente and Intendente, to discuss their perception of the major issues being considered; and
- Managers and staff of Supen on-site supervision teams, off-site supervision teams, representatives of the policy and research and legal teams, to understand how they currently approach supervision and enforcement.
- An analysis of the supervisory objectives and risks for Supen;
- In addition to the OBA report the evidence was developed by a gap and SWOT analysis relating to the implementation by Supen of risk-based supervision;

### 2.13 The conclusions of the OBA for Costa Rica are summarized as follows:

- **Efficiency:** While investment returns are relatively good, there are important issues to be resolved regarding the steps that pension funds can take to reduce concentration risk in the context of ill-developed domestic financial markets, inappropriately detailed investment restrictions and variable governance. Short-termism is a pressing problem. Supen action on has done much to resolve issues in this regard to OPC transfers and commissions (fees), although more scope remains to strip out needless cost from the system, not least from over-regulation of operational risk. Labor market distortions due to pensions exist with incentives for informality, although levels of coverage are better than in many Latin American countries. But avoidance and under-reporting remain a significant problem.
- **Sustainability:** There are serious issues with the sustainability of some DB funds, most notably the basic regimes. When coupled with fiscal problems, relatively low retirement ages and the over-large size of employer contributions to a range of social programs as well as pensions, this results in serious political challenges, as well as strong incentives for avoidance.
- **Coverage:** While the mandatory pension system has secured ongoing coverage of some 45% of the workforce, widespread avoidance incentivized by high payroll taxes and enforcement challenges is a serious constraint. The neglect of the voluntary pension funds, owing in part to an un-level playing field for savings taxation, may have constrained the penetration of the informal sector.
- **Adequacy:** In theory the system should deliver adequate pensions for those contributing – subject to concerns raised above about the sustainability of DB benefits. There is evasion of some contributions – hence reducing future payouts and the voluntary pension funds have not succeeded in significantly increasing contributions.
- **Security:** Major issues in addition to the lack of RBS include the lack of powers and information in the DB system in general and the lack of asset segregation in IVM between health and pension contributions. Supen is well resourced compared to other countries and has already a good understanding of the risk based concepts – although legal and audit-related constraints require dis-proportionate focus on low risk issues and inhibit giving good providers a less intrusive regime than poor providers.

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<sup>31</sup>This team comprised the heads of the DB and DC supervision teams, the head of the central policy team, a representative from the Legal team, the head of IT and several managers from their teams, including sometimes the Supen actuary.

**2.14 The recommendations from the OBA sought to develop on areas where Supen had greatest influence – as well as highlight areas to raise with the Government, as follows:**

- **Efficiency:** As part of the implementation of RBS, Supen needs to work with the industry to develop models of governance and longer-term investment that can cope with inherent deficiencies in governance and the market. It also needs to change its regulations so as to facilitate the move to better diversified portfolios. It should seek to use its influence to provide political cover for these changes and to help improve the domestic investment environment. Supen’s long-term vision for reducing commissions is good but the 2020 goal might be better framed as 0.5% including all trading costs rather than the proposed 0.35% excluding such costs.
- **Sustainability:** The issues raised affect the Government for the IVM<sup>32</sup>, although Supen should use its influence where it can to flag up risks and minimize cross-contamination of the sustainable parts of the pension system and Supen for the DB employer plans. (Demographic challenges were highlighted in the World Bank’s Systematic Country Diagnosis for Costa Rica).
- **Coverage:** Most of the necessary actions are not within Supen’s locus, although it can seek to influence. SUPEN could target information campaigns to improve coverage – although the impact will likely be limited.
- **Adequacy:** There is little that Supen can do effectively to address these issues within the scope of the current FIRST project beyond the information and messaging it currently provides to highlight the benefits of contributions (except for the issues relating to investment highlighted under efficiency).
- **Security:** The constraints within the wider environment in Costa Rica mean that Supen needs to adopt a range of influencing strategies, encompassing education, enabling and enforcement, and strengthened stakeholder relationships, while building actuarial capability. While some reliance can be taken from the maturity of the DC system, greater focus is needed on consistent valuation and realistic articulation of the DB pension promise. Some refinement is needed of Supen’s objectives, performance indicators, powers and consultation mechanisms.

**2.15 Where issues are beyond the scope of the specific client institution, or project, the recommendations can still be relevant in terms of lobbying the government to make wider changes (for example in reforming the social security institution the ‘Caja’ and the pensions or IVM regime.** They are also useful in terms of sharing issues with World Bank Group colleagues to follow up where they lead on a particular area – and to input the findings into the process of developing the World Bank’s Systemic Country Diagnoses which aim to draw together all the potential areas for reform and focus efforts on the key barriers to eradicating poverty and boosting shared prosperity.

**2.16 In Costa Rica the diagnosis phase developed and presented an organizationally specific SWOT analysis.** This was based on the combined picture developed from the data and interview analysis. From this work, the project team, working closely with Supen staff, were able to identify the gaps, strengths, weaknesses, opportunities and threats, as shown in Figure 16.

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<sup>32</sup> Since the end of the project there has been a growing debate in Costa Rica on the need to reform the IVM.

**Figure 16: SWOT analysis as relevant to implementing ORBS in Supen**

<p style="text-align: center;"><b>Strengths</b></p> <p><i>Internal</i></p> <ul style="list-style-type: none"> <li>• Supen understands risk</li> <li>• Supen took decisive action on transfers</li> <li>• Data and IT</li> <li>• Training culture</li> </ul> <p><i>External</i></p> <ul style="list-style-type: none"> <li>• DC operators have matured</li> <li>• DC system works – if you make contributions</li> <li>• Relatively good investment returns in recent years</li> </ul>	<p style="text-align: center;"><b>Weaknesses</b></p> <p><i>Internal</i></p> <ul style="list-style-type: none"> <li>• Perception of Supen credibility &amp; ‘arrogance’</li> <li>• Supen’s strategy not understood</li> <li>• Regulation gives incentives for short-termism (also a market problem)</li> <li>• Excessive regulation</li> <li>• Enforcement difficult</li> </ul> <p><i>External</i></p> <ul style="list-style-type: none"> <li>• Shallow financial markets</li> <li>• Weaknesses in pension fund governance</li> <li>• Basic regime valuation and funding</li> <li>• Evasion of pension contributions</li> </ul>
<p style="text-align: center;"><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Supen well resourced</li> <li>• Scope for Supen to ease off from some supervision</li> <li>• Scope to negotiate some trades for earned autonomy</li> <li>• Multi-funds</li> </ul>	<p style="text-align: center;"><b>Threats</b></p> <p><i>Internal</i></p> <ul style="list-style-type: none"> <li>• Attitudinal barriers to RBS</li> </ul> <p><i>External</i></p> <ul style="list-style-type: none"> <li>• Public works (infrastructure) projects</li> <li>• Potential for Pillar I collapse</li> <li>• Fiscal problems</li> <li>• Political risk</li> <li>• Multi-funds</li> </ul>

**2.17 Many strengths and opportunities were identified.** These include Supen’s understanding of the risks, the good quality of data and IT is has available, the strong willingness to learn within the organization, the increasing maturity of the mandatory DC pension sector, which provides scope for some regulatory trade-offs, and the relatively high net investment returns being achieved. Particular praise is merited for the decisive and effective way in which Supen intervened when the activities of sales agents started to produce serious costs and distortions in the market.

**2.18 The challenges identified by the SWOT and OBA analysis crystalized the key issues to be addressed:**

- Weaknesses in the governance of some pension funds - assessment of governance by Supen and consequential actions to improve governance would be essential to implementing many supervisory strategies, and the supervisory capacity to undertaken such work needed to be developed;
- Widespread avoidance of paying the right pension contributions, under-pinned by a high payroll tax ‘wedge’ between earnings and payroll costs and a lack of public understanding of the need to make sufficient contributions;
- The serious under-funding of some of the basic regime DB pension funds that Supen supervises, but cannot regulate. Actuarial capability generally in Costa Rica, and the understanding of actuarial information and issues at some pension funds, needed substantial enhancement;
- A lack of credibility with some pension funds of Supen’s approach and some staff, arising in part from a perception of insufficient consultation, which in some cases could be relatively simply tackled for Supen to enhance its perception with the industry;

- A lack of clarity and understanding of Supen’s regulatory and supervisory strategy, with a perception that Supen is trying to micro-manage rather looking at the bigger picture. Supen needed to articulate its strategy for mitigating each risk;
- Institutional and legal barriers to the move to a more purposive and less detailed regulatory regime that would facilitate the effective implementation of risk-based supervision;
- Difficulties with Supen enforcement arising from delays and lack of understanding within the legal system;
- Regulatory, and perhaps supervisory, incentives for OPCs to implement short-termist investment strategies;
- Shallow domestic financial markets, coupled with some political resistance to foreign investment, that seriously constrain pension fund diversification of investment and hence risk, coupled with support for public works investments that could bring excessive risk. Supen’s capability needed improving to help drive change.
- Transforming attitudes within pension funds will necessitate a strategy of “education, enabling and enforcement”, especially in view of the existing constraints on enforcement, for instance through agreeing with pension fund management what constitutes good practice and through an enhanced licensing regime, which, as recommended by the OECD, would provide more traction on recalcitrant licensees;
- Several risks can only effectively be addressed through changing stakeholder attitudes and behaviors, necessitating Supen to develop its stakeholder management strategy;
- As the importance of on-site supervision continues to grow with the introduction of formal governance assessment, the value-added by off-site supervision needed re-consideration, and probably re-framing;
- Risk-based supervision would increase the importance of the central risk, policy and planning function within Supen, which would need further structuring and development.

2.19 **It was agreed that the new strategy should address a wide range of risks and be well understood within Supen and the industry.** To enable the implementation of this strategy, a program of capacity building would be needed focusing in particular on investment, not least to enable multi-funds to be introduced safely, the assessment of governance and actuarial skills. Some changes to the organizational structure were also likely to be desirable, along with an information needs analysis and improved performance indicators.

2.20 **In view of the strength of Supen’s IT and data it was not considered that any assistance was needed in this area, which was consequently de-scoped from the project.** Advice was, however, given as part of the High Level Design Report (in the next phase of the project) on the scope for reducing the data Supen collects and retains so as to prevent over-loading of the system.

2.21 **To deliver these recommendations a road-map for the project was developed and agreed.** This was revised over time reaching its final form in Figure 5, above.

## Chapter Three: Development of a risk-based methodology

### Tasks involved

3.1 **This chapter sets out the details of how the specific Risk Based Methodology was created – in a way that was tailored to the needs of Costa Rica.** It is the next stage in the process – following the overall diagnosis and assessment phase set out in Chapter 2.

3.2 **The methodology development encompassed the following major tasks:**

- **High level design**, including agreement of supervisory objectives and principles and mapping risks to the achievement of those objectives;
- Developing **Risk strategies**, as part of a risk-based methodology for corporate planning and performance monitoring;
- Preparing **Principles and Guides of Best Practices** for the industry and Supen;
- Detailed design of the **Core Strategy Methodology**, including assessment methodology; and
- The development of a Report on Defined Benefit funds to help inform funding decisions at DB funds.
- The preparation of a **Conceptual framework**

3.3 **The content of these deliverables was work-shopped during each visit, with further extensive work undertaken by Supen staff between visits.** The design could not have been developed without the leadership from key individuals in Supen ensuring that the necessary work was completed. Reports were prepared after each visit recording the conclusions reached during the visits and providing action plans for the next stage. This highlights a central lesson for successful projects – the need for strong client engagement.

3.4 **Ideally a phased approach to implementation would be taken, with various elements of the methodology rolled out sequentially. The removal of some of the low value compliance burdens create space for the new risk based work.** The scope for doing this was limited by the guidance from Conassif that they would not approve some essential changes needed to roll out the methodology until they had seen the complete package. Because most of the existing program of supervisory activity had to continue until Conassif approved changes to relevant regulation, this in turn placed additional burdens on Supen staff – which they met with great energy. But this extra burden on the capacity of the supervisor is not ideal. It could have had a bigger impact on less strong supervisory teams. Ironically, at the end of the project, following detailed presentations on the full package over a series of presentations the key concern was to allow enough time for a phased implementation.

### High Level Design

3.5 **The description of the deliverables in the body of this report reflects the final design adopted. This included some refinements to the original design as it was tested.** One additional step added during the project was to provide Conassif with a ‘conceptual framework’ showing all of the proposed changes – essentially drawing together the full proposals for the supervisory approach. .

### *Definition of and rationale for adopting ORBS*

3.6 **The essence of outcome and risk-based supervision is that it focuses the attention on the long run objectives for the supervisor, the key risks to these objectives and the most effective solutions. How this is interpreted is system-specific.** Regardless of the type of pension system modern risk-based pension supervision is can be seen as following six attributes:

- **Achieving an outcome-focussed objective for the pension system.**
- **Focusing on key system-wide risk** to the achievement of these outcomes, especially to affiliates' benefits and the stability and reputation of the pension system.
- **Promoting pension fund governance and risk management** so that entities take their proper responsibility for leading on the mitigation of risks within their control.
- **Risk-based selection of entities and subjects for attention** so that the supervisor gives priority to identifying, checking and mitigating the biggest risks within the system rather than checking all players and all issues every year (or even more frequently).
- **Using quantitative risk assessment tools** to enable the seriousness of less transparent risks (such as solvency and investment) to be assessed. On this basis the supervisor can identify the scale and nature of the risks at entities and take effective and prioritized remedial action in such cases.
- **Prevention and remediation first with sanctions for the persistent or most serious issues** so that effort goes into preventing and remedying problems rather than punishment that adds little value particularly for mistakes that are quickly rectified. That said, there will be cases where legal penalties are needed for deterrent purposes.

### 3.7 Risk-based supervision is effective for the efficient and effective supervision of pension systems because:

- **Supervision focused only on compliance with regulation will not identify or address some of the most important risks, particularly as the system and practice evolve and initial legislation becomes dated** – for instance, excessive churning of investments for the benefit of the brokers is unlikely to be explicitly prohibited, but can add significantly to the costs charged to affiliates' accounts.
- **Effective risk based supervision incorporates a dynamic perspective<sup>33</sup> that proactively seeks changes in legislation and regulation.** Whilst much of the focus of the discussion is on 'supervision' many 'supervisors' control regulation, or are in an active dialogue with the ministry controlling regulation. This means that changes to legislation should be part of the toolkit – for example introducing a requirement to use custodians is a legislative or regulatory requirement that cuts down on supervisory resources to prevent fraud.
- **The primary objective is to therefore improve traction on the most serious risks, through intensive and focused supervision aimed at mitigating them.** Such risks are commonly characterized by principal/agency problems and inherent lack of transparency. In Costa Rica issues included investment strategies, funding defined benefit promises and governance.
- **To do this within constrained resources, the supervisor needs to free up resources currently applied to less serious risks.** Resources expended on detailed legal compliance can often be better spent ensuring good governance and risk management and on those risks where principal/agency issues mean that the entities have no incentive to reduce the risk to members' ultimate retirement income.
- **Placing greater reliance on supervised entities to manage less serious risks themselves so that supervisors can focus on areas of greater importance.** Many operational risks are a bigger problem for entities than they are for pension fund affiliates and hence entities already have a strong incentive to manage them effectively. Supervisory input can then be focused on ensuring that governance is effective enough to ensure the risks are managed.

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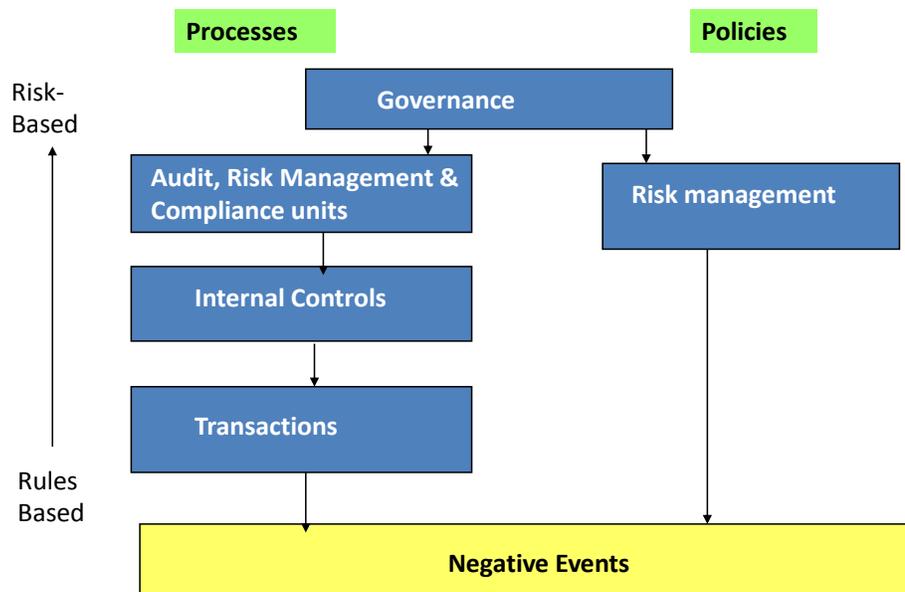
<sup>33</sup> This dynamic element mirrors the concept of dynamism in the Guidelines on Governance of the International Social Security Association (ISSA) – which they (rightly) set out as one of the good practices for the governance of social security institutions.

- **The effective control of risks requires pension fund management to have effective governance and systems of risk management.** Without this Supen can have no assurance that those risks that are well-managed will stay well-managed. Nor can it take assurance that the entities are securing good legal compliance. But if supervisors focus on the low-level process risks this leaves greater risks uncovered, and opportunities for greater impact under-exploited.
- **In exchange for embedding good governance and risk management the burden of detailed regulatory and informational requirements placed on entities can be reduced,** for instance, the frequency of inspections can be reduced and entities need no longer be required to answer a 400 question compliance questionnaire every year as was the case in Costa Rica at the start of the project.

3.8 **The process of shifting to greater reliance on governance and risk management shows the shift from a low-level transactional approach to one based on governance and risk (Figure 17):**

- Regulatory compliance supervision focuses on transactions that may result in negative events and related internal controls;
- Moving to risk-based supervision moves the focus to higher level control processes within the entity (such as internal audit, risk management and compliance units) designed to detect any negative transactions or control failures and the role of the Board in ensuring there is sufficient assurance and that problems are acted upon.
- The focus on governance also enables consideration of Board policies, which may result in intentional negative effects that will not be detected by the control system.
- This does not mean no focus on transactions, but it alters the relative balance – and if internal and external auditors are already conducting transaction-level due diligence (as well as the funds own processes) then adding supervisory attention will add little value.

**Figure 17: How risk-based supervision shifts focus to high level controls and governance**



3.9 Many pensions supervisors already has some of the attributes of risk-based supervision and some focus on risk, even where risk-based supervision has not been formally implemented. This is certainly the case with Supen which prior to the World Bank project had made considerable progress in this regard has a good record of addressing risks as they emerge, for instance from excessive sales activity during 2012. What generally needs to be developed, as with Supen, is a methodology to systematize decisions made on a risk basis and put it in the context of a long-term objective linked to clear performance measures.

### *Objectives of RBS in Costa Rica, and supporting design principles*

3.10 **The diagnosis phase mapped desired supervisory outcomes which then resulted in the development of an over-arching desired outcome (objective) for risk-based supervision.** This was further refined in subsequent discussion. The objective in its final form was “**to promote a pension system that is trusted, sustainable and efficient that delivers adequate pensions to all eligible workers**”, or in Spanish as: “*Promover un sistema confiable, sostenible y eficiente, que otorgue pensiones adecuadas a los trabajadores elegibles*”.

3.11 **In designing risk-based supervision it is important to establish some guiding supervisory design principles, which might also be seen as values, which help explain simply the philosophy of the supervisor.** Following some explanation of international experience, including the equivalent principles developed by the Brazilian pension fund supervisor<sup>34</sup>, the Supen core RBS team brainstormed some guiding principles. These were then collated, reviewed and re-worked until seven design principles emerged that cover the main concepts that the team wished to capture. Feedback from comments from the OPCs given following a presentation on the approach being developed was also reflected, in particular the addition of the word ‘listens’ to the third principle.

3.12 **The seven overarching supervisory design principles are (in Spanish and English):**

1. El sistema de pensiones se centra en los **riesgos mayores** y las **más efectivas soluciones** basado en la **mejor evidencia**, para entregar las mejores pensiones posibles

The pension system focuses on the **biggest risks** and **most effective solutions** based on the **best evidence** to deliver the best possible pensions

2. **Los Supervisados asumen la responsabilidad para gestionar y mitigar los riesgos, que lleven a una mayor confianza**

Supervised **entities take responsibility** to manage and mitigate risks that can lead to them being more trusted

3. SUPEN **escucha, explica, convence, incentiva, ayuda y hace cumplir**

**Supen listens, explains, convinces, incentivises, assists and enforces**

4. **Regulación añade valor** a la gestión de riesgos en el sistema nacional de pensiones

**Regulation adds value** to managing risks in the national pension system

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<sup>34</sup> A case study on ‘Risk Based Supervision of Brazilian Closed Pension Funds’ was published by one of the authors, John Ashcroft, in 2012.

5. **La metodología de evaluación de riesgos es consistente, estructurada, proporcional, específica y da resultados en el momento adecuado**

The **risk assessment methodology is consistent, structured, proportionate, specific and delivers at the right time**

6. **La captura de la información es la necesaria y proporcional** a la importancia de datos para el análisis

**Information capture is necessary and proportionate** to the importance of data for analysis

7. **El personal de SUPEN es adaptable y multidisciplinario** combinando las **mejores competencias y la comprensión** para supervisar con eficacia

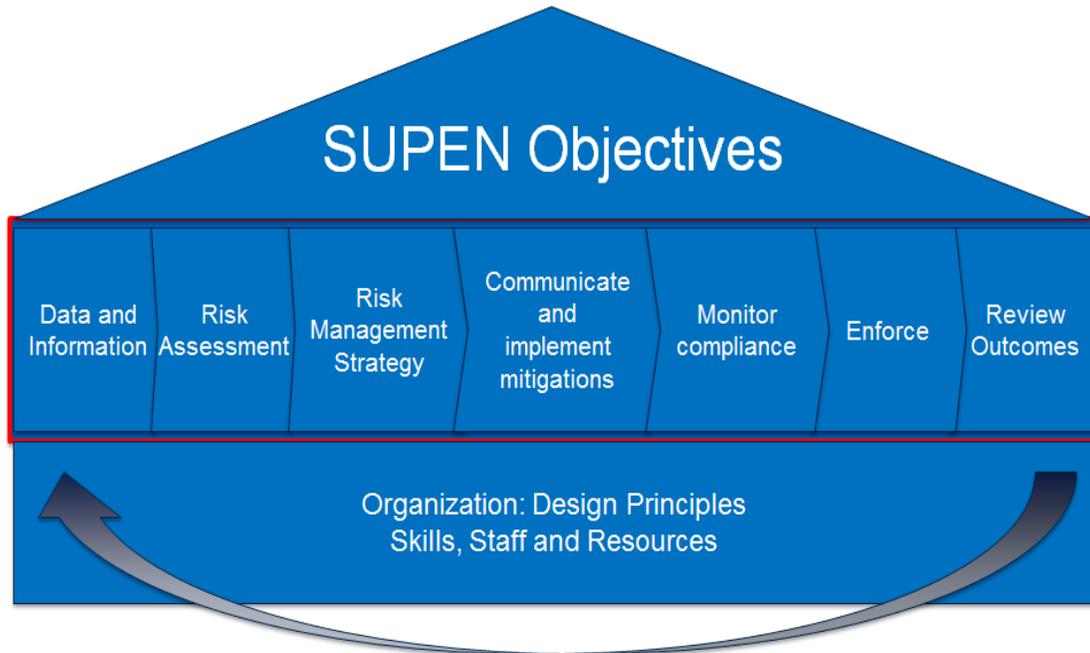
**SUPEN staff are adaptable and multi-disciplinary** combining the **best skills and understanding** to supervise effectively

### *The value chain for delivering risk-based supervision*

3.13 **Delivering a risk-based approach requires a rigorous focus on all activities in the supervisor.** Delivering the value chain requires the right organization and resources. This is shown in Figure 18. This focus on activities, resources and supporting organizational design helps to create an integrated framework to help embed the new approach in an organization. It is supported by setting out an integrated strategy, risk and financial planning cycle – set out in more detail later.

3.14 **The value chain for delivering Supen’s objective starts with Supen receiving data from a variety of sources which it converts it into usable information on the pension system and its entities.** The information is then analysed to assess risk. The analyses inform the development of strategies. These seek to ensure that risk is mitigated to a tolerable level. The changes in behaviors expected of supervised entities identified in the strategies, are communicated to supervised entities and other stakeholders. This is done through a variety of media from oral statements through to regulation. Compliance with what is expected is monitored off-site and on-site. Appropriate action is taken to secure compliance where supervised entities fail to meet Supen expectations. Finally, the outcomes of supervision are reviewed to inform risk analysis and the revision of strategies or development of new ones. This value chain is underpinned by having the right resources in the right organisation structure.

Figure 18: Organizational design, long run objective and supervisory value chain.



3.15 **The emphasis within the ‘monitor compliance’ element on a unified methodology for supervision was especially important.** At the start of the project Supen was undertaking on-site inspections for several different reasons, resulting in some 40 a year. In particular, it was required to undertake twice-yearly inspections to undertake a calibration of a limited sub-set of risks mainly relating to the investment portfolio. These were in addition to separately mandated inspections of regulatory compliance. This lack of integration was criticized, understandably, by pension fund entities.

3.16 **The implications of the seven supervisory principles for each stage of the value chain were developed with Supen.** The key implications are:

- **Data and information:** Supen is already IT enabled with the capacity to develop the software refinements needed for RBS. Furthermore, Supen has the data it needs and all the data it obtains has some value. However, some could be collected less frequently. If the control processes of pension funds can be relied upon. Some compensating checks need to be specified to ensure this. Furthermore, the duty on pension funds to maintain accurate data needs to be clearly articulated and acted upon. With these safeguards, mandatory affiliate data could move to being annual (currently monthly) and portfolio data monthly (currently daily).
- **Risk assessment:** A consistent approach to risk analysis and assessment needs to be applied across Supen. This requires re-alignment of the risk categorization included in the risk calibration regulation to fit better with a comprehensive view of the risks in the system. In this way the assessment methodology ties in system-wide and entity level risk assessment. The probability of risks materializing is not solely related to the assessment of entity risk management.
- **Risk management strategy:** A strategy for each risk (or groups of risks where they overlap) is needed, applying a common methodology. The priority activities in the strategies need to be converted into supervision plans for each Division to drive supervisory activity and resourcing.

The strategies also need to inform planning for communications activity, regulation, training and data collection.

- **Communicate and implement mitigations:** Once Supen has determined what behavior it expects of supervised entities it needs to communicate them, either by regulation or various forms of guidance. The choice of medium will depend on factors such as the likelihood of compliance and the complexity of the issue. Agreement with the entities as to what constitutes good practice should improve the likelihood of compliance. Hence, there needs to be a properly consultative approach before regulation or guidance is issued.
- **Monitor compliance:** Supen needs to monitor compliance with what it has communicated to the entities as being good practice in managing the risks in the system. It can be undertaken off-site or on-site, depending on which is most efficient and effective. All testing of this nature should derive from the supervisory strategies which flow into the works plans for each Division. Legislative compliance checking will continue to be needed where pension fund governance is not adequate. This will still be within a single supervisory model with no supervisory activity beyond that driven by risk-based supervision. Supen's approach to on-site inspection needed some refinements as part of the development of processes for assessing governance and investment, and raising actuarial capacity. There should also be a re-alignment of off-site processes with strategic priorities.
- **Enforce:** Supen has experienced problems with enforcing regulation, because only some specific breaches are sanctionable. Currently identified breaches may not correlate with the level of risk exposure or loss. Even blatant illegality has been very time-consuming to remedy. A closer linkage between sanctions and risk mitigation and impact is proposed – another example of the need for a dynamic nature of modern outcomes and risk based supervision.
- **Review outcomes:** The review of supervisory outcomes against the intention in supervision strategies should be undertaken by Supen's 'supervision committee', which needs expanded terms of reference, supported by the team responsible for co-ordinating risk analysis. This helps build in a more rigorous monitoring and evaluation element into the annual strategy and risk cycle.

### *Analyzing the risk landscape*

3.17 **Risk analysis and assessment is central to risk-based supervision.** At Supen it was agreed that it should take place:

- System-wide<sup>35</sup> to inform the strategies developed to mitigate risk and their prioritization, and to identify the inherent risk that is the starting point for entity level risk assessment. This also enables entity-level findings to be brought together at system level;
- At the supervised entity level to inform the frequency of inspection of different risks, including governance, in line with the strategy for mitigating those risks;
- During an on-site inspection to determine what additional work is needed;

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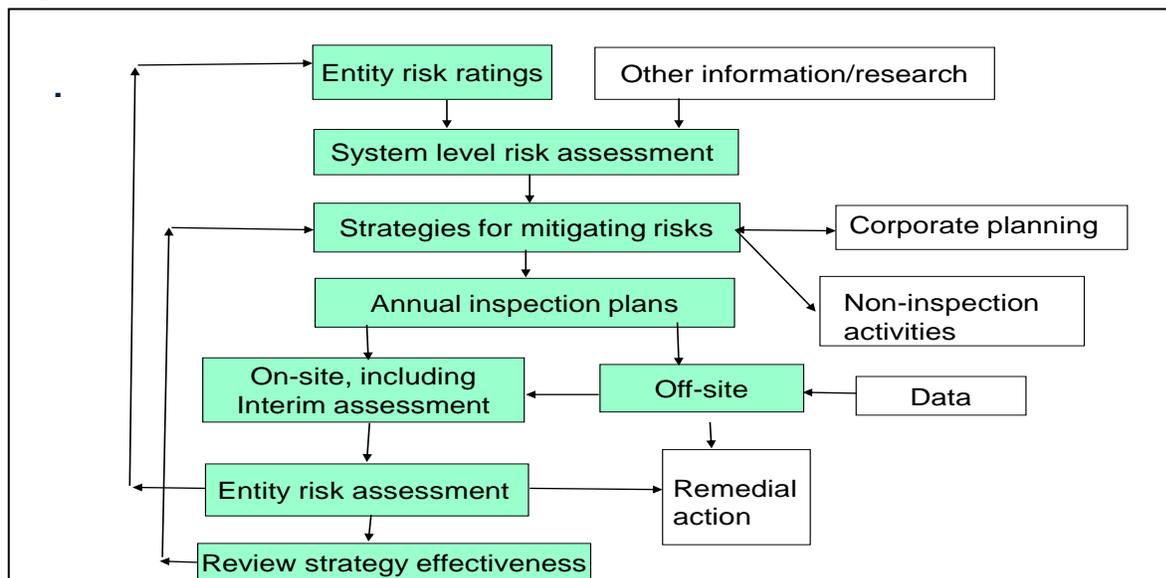
<sup>35</sup> After the project closed CONASSIF asked the Toronto Centre to compare the methodology developed for pensions developed in this project with those developed for the separate regulators covering banking and insurance. There were a range of differences – with some areas on which greater harmonization could be useful – but with a message that the most important thing was to ensure implementation of the broad model adopted in each area. The focus on system-wide risks in the pensions model was not found in the insurance or banking. On the other hand the insurance and banking models were seen as having a clearer focus on inherent and residual risk testing at the entity level (although the pension model does focus on inherent and residual risk as set out below).

- Following off-site analysis and on-site inspection, to inform the supervisory response (enforcement approach) to the risks that are found; and
- When reviewing the impact of Supen’s risk mitigation activity at the system-wide level.

3.18 **How these different types of risk assessment fit together within the supervisory model is shown graphically in Figure 19.**In essence:

- Risk assessments and risk strategies form the basis of the annual inspection plan (on-site and off-site), along with other available information about the entities.
- The results of the on-site and off-site inspections are used to refine and re-prioritize the inspection approach during the year and to update the assessment of each risk at each entity. The assessments help determine the force with which any remedial actions are required, and indeed whether penalties or interventions are needed.
- Aggregated assessments of each risk at each entity then feed into a re-assessment of risk at the system level, along with other available information. Where the assessments are insufficient to enable a full assessment of risk to be made research may be commissioned to help fill the gaps.
- The revised system-level risk assessments are then used to consider whether any risk strategies need to be revised, informed by a review of how well the mitigations in the strategies appear to be performing. The (revised) strategies feed into the corporate planning for Supen to help determine how resources should be re-allocated.

**Figure 19: The risk assessment model**



3.19 **The starting point for Supen was an assessment of system-wide risk using a 3x3 matrix with dimensions relating to the probability of a risk materializing and the impact should it materialize<sup>36</sup>.** This was an iterative process - seeking a balance between keeping the number of risk categories to a minimum and ensuring that risks with significantly different characteristics are kept separate. Each risk was given an inherent and residual risk rating. Discussion of the risk ratings helped Supen staff to obtain a better perspective on the nature of the risks they faced. They provided a starting point for the risk

<sup>36</sup>The assessment of risk at individual entities is to be undertaken using four levels of probability assessment, and hence when the risk assessments are revised on the basis of quantified assessments from inspection activities, they will be converted into 3x4 matrices.

strategies by identifying the risks in the system and their intensity. Some of the risks apply only to DB funds and some only to DC, or at least differently to DC. The list of risks at the end of the project is at Figure 20 below<sup>37</sup>. This is color-coded according to the level of risk identified.

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<sup>37</sup>It should be noted that the mapping exercise covered only 22 risks. IT and business continuity risks were subsequently separated. Into two risks. The voluntary contracts risk will very probably be expended to encompass all risks from legal problems not relating to pensions law and hence DB as well as DC funds.

Figure 20: Risks by fund-type with color-coded assessment of inherent risk

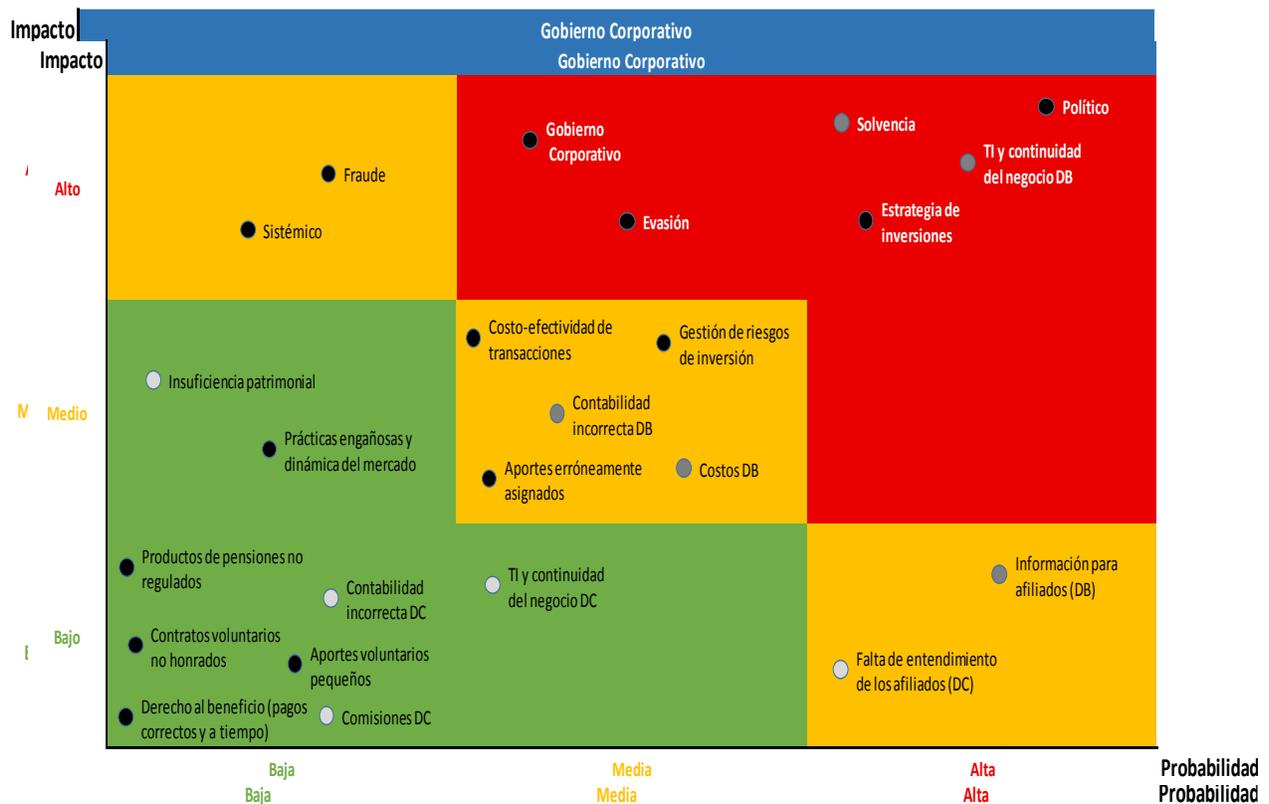
DC	DB basic	DB complementary
<b>Investment</b>		
1. Investment Strategy	Investment Strategy	Investment Strategy
2. Investment management risk	Investment risk management	Investment risk management
3. Cost-effectiveness of investment	Cost-effectiveness of investment	Cost-effectiveness of investment
4. Systemic risk	Systemic risk	Systemic risk
<b>Actuarial</b>		
	5. Actuarial funding	Actuarial funding
	6. Affiliates informed correctly about the promise	Affiliates informed correctly about the promise
	Marketing/information	
7. Mis-selling and other abusive market conduct		
8. Affiliate lack of understanding	Affiliate lack of understanding	Affiliate lack of understanding
9. Reneging on voluntary contracts [legal] <sup>38</sup>	Note: legal risk should be added	Note: legal risk should be added
<b>Costs</b>		
10. Commissions (fees)	11. Costs	Costs
<b>Operational</b>		
12. Correct accounting	Correct accounting	Correct accounting
13. Fraud and other financial misconduct	Fraud and other financial misconduct	Fraud and other financial misconduct
14. Right payments on-time	Right payments on-time	Right payments on-time
15. Contributions wrongly allocated to affiliates	Contributions wrongly allocated to affiliates	
16. IT & data security	IT & data security	IT & data security
17. Business continuity	Business continuity	Business continuity
18. OPC capital adequacy		
<b>Corporate Governance</b>		
19. Corporate Governance	Corporate Governance	Corporate Governance
<b>Coverage/miscellaneous</b>		
20. Evasion of pension contributions by employers	Evasion of pension contributions by employers	
21. Voluntary contributions too little		

<sup>38</sup>Legal risk was subsequently identified as being more extensive than originally was the case, and the risk should be moved to operational.

22. Unfair competition from un-regulated pension products		
Political	Political	

3.20 The eventual risk mappings (of 22 risks) were put in a heat map as set out in Figure 21 – for inherent risk and Figure 22 for residual risk. The mapping shows that Supen’s supervision activities have already been effective in reducing some risks. Some risks, however, remain high. This analysis informed the prioritization of risk strategies (see next section).

**Figure 21: Inherent risk mapping of the original risks**  
**Figure 22: Residual risk mapping of the original risks**



**Next steps following the risk identification**

3.21 **Following the risk mapping the discussion focused on the move to a unified supervision model – based on risk.** Existing inspections of compliance with rules and inspections for (partial) risk assessment would be replaced by a single series of inspections. These would assess governance and the management of risk. Testing before and during inspections would be only as much as is needed to check for the effectiveness of systems and legal compliance.

3.22 **The primary duty of checking compliance with the law should rest with the bodies bound by the law.** Some legal compliance must inevitably be checked in the process of securing assurance regarding the management of risks, for instance the existence of proper contracts with independent custodians. Checking of legal compliance not related to serious risks need only be carried out when Supen lacks assurance in pension fund governance, and then within a risk assessment. The original High Level Design Report was revised to emphasize this issue.

3.23 **After developing a vision for how risk-based supervision should be implemented and analyzing the risks in the system, the next steps for the design of risk-based supervision are:**

- Completing strategies for mitigating risks, and aggregate these strategies;
- Developing a model for Supen analysis, modeling and on-site inspection of investment risks;
- Streamlining Supen’s processes for evaluating operational risk from the current 400 question questionnaire to move to a revised package of guidance and assessment tools;

- Enhancing the capability of Supen to make effective and well informed input into pension funds decisions on funding DB promises;
- Developing processes for Supen inspection of governance on-site;
- Considering the impact of these developments on Supen’s data and information requirements;
- Reviewing the program for regulation and enhanced approaches to consultation on regulation;
- Presenting the revised approach to RBS to Conassif to obtain their agreement to regulatory changes that remove obstacles to efficient supervision by Supen and efficient operation by supervised entities;
- Continuing with the staff development needed to support RBS;
- Proposing and discussing options for re-organization; and
- Continuing the consultations with the pension industry.

### Development of supervisory risk strategies and the associated strategy process

3.24 **The process for developing risk strategies is integral to risk-based supervision. They provide the bridge between the system-wide risk analysis and the specific supervisory actions taken.** They enable priorities to be objectively analyzed and set. Monitoring of the implementation of the chosen actions then completes the cycle. This is illustrated in Figure 23.

**Figure 23: The risk strategy cycle**



3.25 **A standard risk template designed by the project team was agreed for documenting the strategy for mitigating each risk.** The strategies were initially work-shopped with the project team. They were completed between technical assistance visits with comments from the project team. The template covers:

- The inherent and residual risk assessments with reasons;

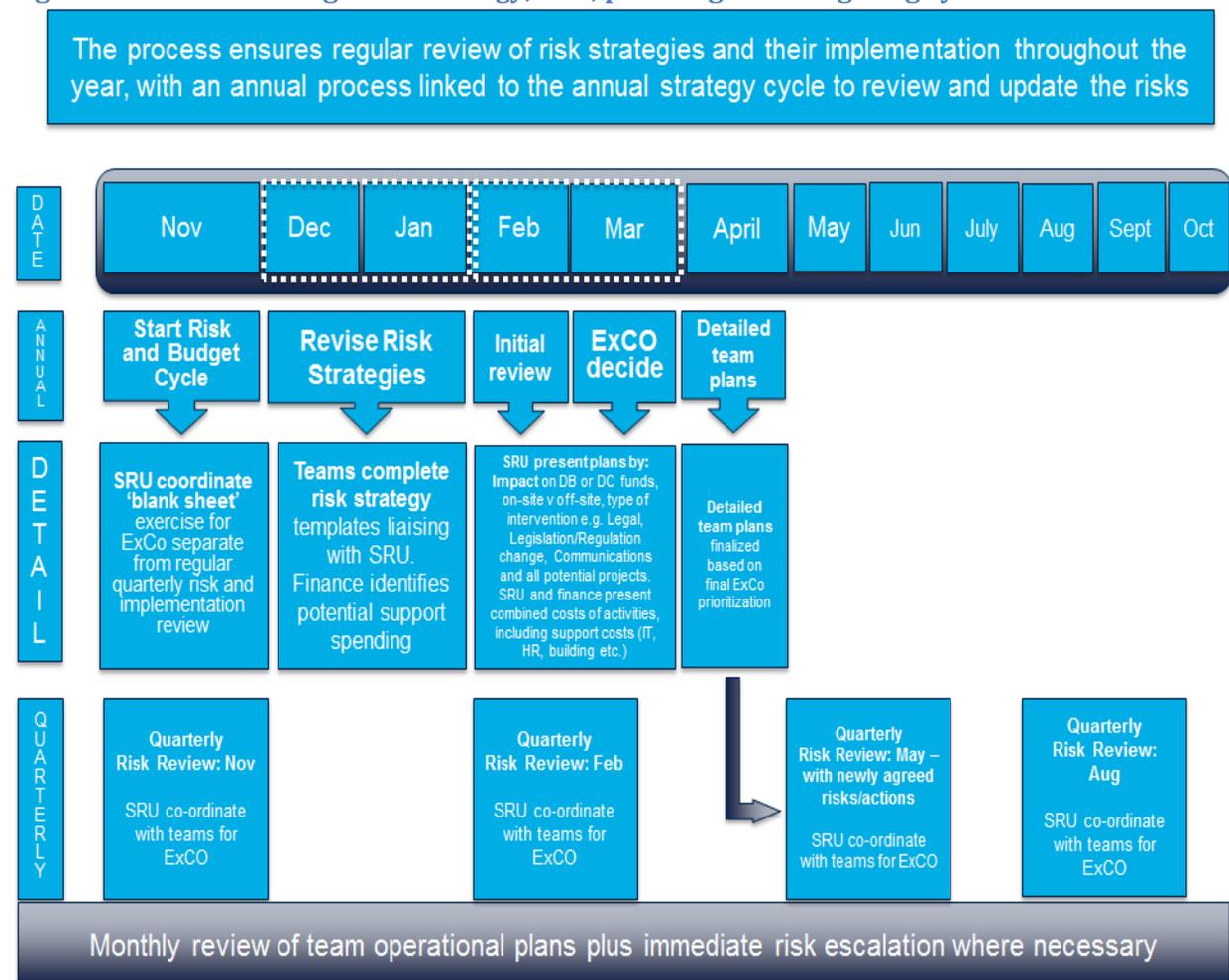
- The scope for Supen influence, which when combined with the risk ratings enables a priority rating to be assigned;
- The behaviors that need to be sustained or changed to maintain an acceptable risk rating or reduce the residual risk to a tolerable level;
- Options for sustaining or achieving these behavioral changes;
- An analysis of the expected cost-effectiveness of each option to enable them to be prioritized; and
- An action plan template to identify the responses involved in the prioritized options.

3.26 **Supen staff made a huge effort between visits to fill out the strategy templates for the strategies identified as needed from the risk analysis.** It was clear that considerable thought and teamwork was put into them although the Supen core team observed that other tasks had limited their inputs. The work provided a strong platform for taking RBS forward. There were extensive discussions of the strategies. The collaborative work of the different Supen teams across functional and product line boundaries was a model to follow. Work continued on this basis between the 3<sup>rd</sup> and 4<sup>th</sup> visits so as to complete this phase of the design.

3.27 **Having finalized the strategies the next step was to translate the implications of the strategies into the plans for the divisions, areas, functions and projects concerned.** A new integrated planning, prioritization and resourcing process and calendar was designed with Supen, as outlined in Figure 24 below. Revisions to risk strategies are translated into updated plans annually as a default, but more often if needs be. The operational plans need to identify resource needs which must be prioritized to fit within Supen's budget. This may necessitate the deferral or scaling back of actions identified in the plans. The annual strategic planning process fits within the longer term strategy (currently every five years). Outcome measures are used to gauge the success of risk strategies while more traditional output measures indicate whether plans are being delivered. The new process:

- Delivers an annual cycle to review, and renew, risks and resource allocation;
- Delivers integration of existing strategy and new risk processes;
- Prevents creation of 2 sets of priorities – so that the new risk based approach is not additional to current supervisory efforts
- Helps embed a single supervisory model – internally and externally
- Links annual planning with more regular operational activity through:
  - An **annual** fundamental look at risks and strategy
  - A **quarterly** cycle to review implementation of strategy and discuss risks
  - A **monthly** team based process to ensure execution of strategy
  - A '**rapid escalation process**' to ensure urgent new risks can be addressed outside of the regular cycle

**Figure 24: The new integrated strategy, risk, planning and budgeting cycle.**



### Organizational implications

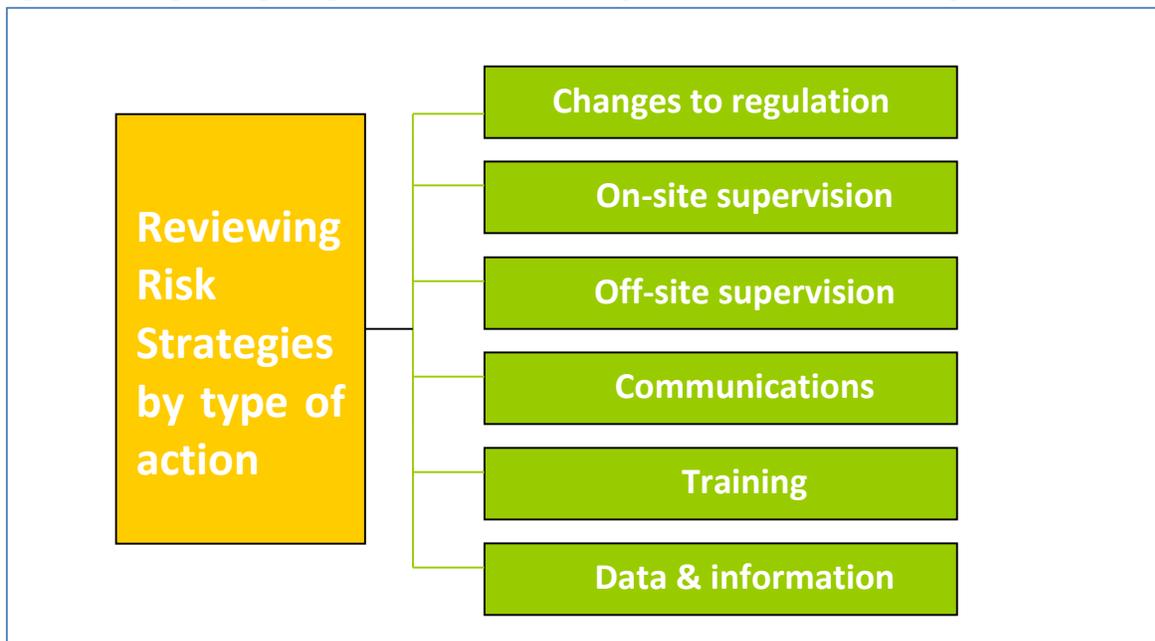
3.28 A new committee structure was needed to co-ordinate and oversee the strategy, risk assessment and risk mitigation approaches. A high quality person to support the committees and provide day-to-day co-ordination and oversight was a significant benefit. A Supervision Committee already existed as an appeal body for pension fund entities complaining about their risk scores. Value was seen in enhancing its role to have a greater oversight of supervision processes. The vision for this refinement in Supen's structure is:

- The **Strategic Risk Committee** would be responsible for determining Supen strategy, following the process outlined above, peer reviewing and agreeing the each supervisory strategies and the plans in those strategies and approving the strategic plan and budget.
- The **Supervision Committee** would develop from the existing committee mandated by the risk calibration regulation, and peer review risk assessments prepared by the supervision divisions and formulate or recommend responses to new risk situations as they arise.

3.29 **Terms of reference were developed for the committee and a member of staff was assigned the position of acting as the strategy and risk unit.** A separate paper was provided to the Superintendente and Intendente setting out the options for organizational change and explaining the reasoning, within the context of how other pension supervisors are organized. This resulted in a virtual team being created to co-ordinate Supen’s response to investment risks across DB and DC sectors and agreement to eliminate the unhelpful split within the supervision divisions between on-site and off-site supervision. Formal changes to the structure required Central Bank approval and could not proceed until Conassif had agreed the full package of supervisory changes.

3.30 **As the risk strategies were completed the Strategy and Risk Unit developed a methodology for agreeing the options proposed in the risk strategies and capturing the implications for various aspects of the organization.** A set of Excel spreadsheets were created that capture and link all the key information and ‘cut’ it in different ways. For example the prioritized actions from the risk strategies need to be checked in terms of the types of action to be undertaken – from regulation to on-site supervision. This is to identify if there is too much activity in a particular area – for example too many new regulations in a given time period – see Figure 25. It is also useful to develop training and hiring plans for the organization. The prioritization needs also to look at the mix across DC and DB funds.

**Figure 25: Capturing the prioritized risk strategies under different categories**



3.31 **The scope of periodic reporting was discussed and the Strategic Risk Unit developed the necessary tools.** Not all strategies required the major focus to be on guidance and assessment. Communications with key stakeholders through various media are also important, and the risk strategies already identify a range of appropriate communication activities. Implementing these will require some enhancement of Supen’s communications capability.

3.32 **Supen completed work on the 22 risk strategies enabling a prioritization process to be undertaken and providing input for divisional and other planning activities.** 59 priorities were identified in the strategies. The newly established Strategic Risk Committee considered these priority actions. As expected there were too many to be advanced simultaneously. Action on them was therefore spread

across a three year time period. The activities and implementation plan was prioritized according to a rating system that took account the level of inherent and residual risk and the scope for Supen to influence change. The prioritization process was as follows:

- a. **Residual risks:** select those classified as high risk (probability high and medium - impact high and medium)
- b. **Impact on the risks of the proposed options:** options with higher or medium impact were selected.
- c. **Influence of SUPEN in the implementation of the proposed options:** options with high or medium influence were selected.
- d. Based on the 3 criteria above **24 options** were selected for the first year – across all of SUPEN’s activities from regulation to communication, training, off-site and on-site supervision.
- e. The options that did not meet these criteria were scheduled for the following two years.

3.33 **The risks assigned the highest priority for mitigation, along with the main mitigations are set out in Figure 26.**

**Figure 26: Priority risks for mitigation**

Risk category	Strategic approach
<b>High inherent and residual risk</b>	
<b>Evasion of employer contributions</b>	Analysis, communication and co-ordination with the Caja and others
<b>Investment strategy</b>	Guidance, communication, off-site analysis and on-site supervision
<b>Solvency (DB)</b>	Guidance, communication, off-site analysis and on-site supervision and new DB landscape presentation
<b>IT and data security (DB)</b>	Guidance, communication, off-site analysis and on-site supervision, persuasion, regulatory change
<b>Corporate governance</b>	Guidance, communication, on-site supervision, persuasion, regulatory change, and verification of information sent to Supen
<b>High inherent risk (residual risk lower than high)</b>	
<b>Incorrect accounting</b>	Clearly placing responsibility onto the entities and verifying that they take this responsibility seriously
<b>Mis-selling and market dynamics (DC)</b>	Monitoring publicity materials and affiliate transfers to check that previous abuses are not repeated
<b>Investment risk management</b>	Guidance, communication, off-site analysis and on-site supervision
<b>Fraud and other financial misconduct</b>	Off-site analysis and on-site supervision

3.34 The reasons why the risks was prioritized were:

- **Evasion of employer pension contributions:** Evasion impacts the value of benefits being accrued in defined contribution and benefit funds, and the funding made available to support defined benefit funds. While mitigating this risk rests mainly with the Caja, Supen has a role in proving information and helping to publicize the importance of pension contributions.
- **Investment strategy:** There is over- concentration of pension fund investments in the bonds of the Costa Rican Government and related entities coupled with limited opportunities for other investments within Costa Rica. Pension funds have limited experience of diversifying outside Costa Rica, but will increasingly need to do so to obtain a better balance of risk and return for

members. In view of the limited experience in the entities, this introduces new risks that will need to be mitigated by more robust strategy processes.

- **Solvency:** There is a lack of consensus as to the extent to which defined benefit promises are funded due to the lack of a common standard for determining solvency. In particular, the accounting for DB funds seems to include the assets on one side and the liability for payments only to current retirees but not future retirees – who are the current active members on the other side of the balance sheet. This gives too favorable a view of the funded status. For some funds it is clear that funding is inadequate to meet promises in full (or even at all). This is compounded by a lack of understanding of actuarial concepts by board members. In addition there seems to be little communication with affiliates about their likely benefits – and the risk of benefit reductions which are the primary means by which deficits can be reduced<sup>39</sup>. A common understanding of the extent and gravity of the problem will facilitate finding and agreeing on solutions.
- **IT and data security (Mainly DB):** Weaknesses in the IT support, and consequential impacts to data quality and security at some of the defined benefit funds, increases the risk that the wrong benefits will be paid or unaffordable benefits promised.
- **Corporate governance:** The quality of entity boards is variable with some having insufficient understanding of their role. Poorly informed decisions may be made and conflicts of interest may impact negatively on decisions or there may be insufficient challenge to management.
- **Correct accounting:** The accurate accounting for member accounts (DC) or accrued entitlements (DB) is fundamental to the accurate calculation of benefits and funding levels, and the smooth operation of the system. A significant failure undetected for significant time would prove costly to remedy and could easily lead to incorrect calculation of benefits. This could in turn have serious reputational impacts. Although systems are designed to minimize occurrence, there have been problems in the past at DC funds and there are some doubts about the quality of underlying DB data. Supen needs to ensure that the probability of occurrence is kept low.
- **Mis-selling and market dynamics (DC):** Problems with excessive churn between funds driven by dubious selling practices and sales commissions drove up costs, delayed fee reductions and increased liquidity requirements beyond the optimum level. Regulatory change has calmed the market down, but Supen needs to be alert for any re-occurrence.
- **Investment risk management:** Unavoidable losses due to poor investment risk management are a perennial concern. Supen need to ensure that strong investment governance is embedded to avoid such risks materializing to the detriment of member account balances for DB funding.
- **Fraud and other financial misconduct<sup>40</sup>:** The inherent probability of this risk is fortunately relatively low – for example due to the role of custodians. But there could be catastrophic impact on the system’s reputation if it materialized. Supen therefore need sufficient checks to ensure that fraud and other financial misconduct is prevented or at least rapidly detected.

### *Performance measures*

#### **3.35 The Strategy and Risk Unit is also responsible for developing and applying performance measures.**

The measures developed at the end of the project are shown at Figure 27. There are conceptually three main types of indicators Supen should use, which are needed for different purposes:

- **Activity indicators** measure the activities that Supen has delivered. For instance, one indicator might be delivery of 12 reports on inspection visits during the year. These are important for the

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<sup>39</sup> In this sense some of the Defined Benefit funds are closer to ‘Defined Ambition’ funds – there is no guarantee that all the benefits targeted will actually be delivered.

<sup>40</sup>Other financial misconduct encompasses the irregular diversion of pension fund money for reasons other than direct personal gain, such as diverting pension fund money into the account of an OPC.

accountability of managers and staff and may contribute to the staff appraisal system. They can be measured periodically during each year. If the level of activity recorded is compared with the resources expended this can also provide operational efficiency indicators. Activity indicators should be specified as part of the annual planning process, and relate, so far possible, to the objectives of specific teams within the organization.

- **Intermediate outcome indicators** measure progress made by supervised and other entities within the pension system in delivering improvements in governance or risk management that are expected to result in improvements in long-run outcomes. Supen’s own assessments of entity governance and risk management are a good example, as might be the level of affiliate complaints. These are short-run proxies for the long-run outcomes and assume that Supen’s hypotheses regarding actions that should be taken to improve those outcomes are correct. Their value is that they can be measured annually and hence provide more timely information. Placing too heavy a reliance on them creates the risk that the indicators might be manipulated. These indicators should be derived from the risk strategies, and revised as appropriate to reflect any changes in the strategies.
- **Long run outcome or impact indicators** measure progress towards Supen’s objectives for the pension system. Examples are given below. They tend to share the characteristics that it can take several years to obtain a clear view of the progress being achieved and that they can be influenced by events outside Supen’s control. Hence, for instance, solvency measures may move negatively because of changes in financial markets, interest rates or longevity outside Supen’s control. Affiliate perceptions might be affected by events in other financial markets or the economy as a whole. These indicators should form part of Supen’s strategy. They should therefore feature within the conceptual framework and any Supen publications explaining the framework or the corporate strategy derived from the framework.

3.36 **In addition to the high level measures the Strategy and Risk Unit also collated success measures from all of the risk strategies.** These cover a much wider range of risks and mitigations, albeit focused more on outputs than outcomes. Taken together, reviewing progress against them should give Supen a strong framework for assessing its progress.

**Figure 27: Performance measures agreed at the end of the project**

Results	Indicators/Unit of Measurement	Baseline, Year	Target Year	Data Source/ Methodology	Assumptions
<b>Impacts (Long-term)</b>					
Strengthen risk management practices & increase opportunities for Pension Funds to improve returns and solvency	Deficit for current participants reduced significantly	2016	2021	Report of solvency/Market-based solvency measure	Stable economic and financial sector conditions
	Increase in DB & DC diversification portfolios: reducing % in Government bonds by at least 5%	2015	2021	SUPEN monitoring systems	
Strengthening the management of risks in pension funds	Full implementation of principles and guidelines of good practice, according to type of Fund.	2015	2021	Qualification of SUPEN risk management process	Support RBS implementation by authorities of SUPEN and CONASSIF

Results	Indicators/Unit of Measurement	Baseline, Year	Target Year	Data Source/ Methodology	Assumptions
<b>Outcomes (Short-term and medium term)</b>					
Increased capacities and readiness of Supervisory Authority for Risk-Based Supervision	RBS adopted (e.g. org chart, staffing, strategy, objectives, procedures, guides, manuals, tools)	2015	2018	SUPEN	
Enabling legal framework for Risk-Based Supervision in place	Enactment new / improved leg/reg supporting RBS and investment liberalization	2015	2018	SUPEN	

**Principles and Guides for pension fund management and supervisory review**

3.37 **A central part of the model is to develop clear principles, and more detailed guides, that set out what is expected to run an effective pension operation.** The steps in the process of developing the principles and guides is as follows:

- For each **risk category**, Supen starts by defining what best practice looks like. This guidance is framed at two levels:
  - **Principles** set out what Supen considers to be essential characteristics of a properly-run pension fund entity in terms of the expected outcomes; and
  - **Detailed guidance on best practices** expands on the features, such as documents, processes or controls that Supen might expect to see in place to implement the principles in practice. The absence of such features may not matter if the entity can show that it has what it does successfully implements the principles (“comply or explain”). Conversely, having all the features in place in form but not in substance, might mean that the principle is not really complied with.
- Best practice is to develop the principles with **industry consultation** – as happened in Costa Rica. They should be given legal force, on the basis that no-one could tolerate a failure to seek to implement them, and hence be included in regulation. Consultation on the detailed guidance does not mean complete consensus is needed. But as highlighted in the seven core values for SUPEN, listening and understanding as well as explaining and convincing are critical. Consultations are an effective way to deliver on this promise – and to ensure that proposals are technically accurate and avoid unintended consequences.
- Supen needs then to ensure that there is full understanding of, and agreement with, the finalized guides so that any subsequent argument with entities is not around the definition of best practice but only whether each entity has followed it. This may require both formal and informal dialogue.
- Supen then needs to test whether the principles and best practices are being applied by entities in practice. This is primarily through on-site inspection, supported where relevant by off-site analysis of data (e.g. on investment portfolios’ or DB funding calculations).
- Where shortcomings are found Supen needs to advise the entity that its fiduciary duty requires it to implement remedial measures or, where appropriate, direct that such measures are taken and enforce compliance where necessary.

3.38 **Supen prepared the guidance needed to cover the priority risks within six best practice principles and guides.** They focus on the priority risks but go beyond them where this needed for completeness. These guides cover:

- Corporate governance (including risk management framework)
- Investment
- Solvency (DB)
- Managing operational risks
- Managing IT and data security risk
- Market discipline

3.39 **Preparation of the Principles and Guides involved considerable discussion with the World Bank team on what constitutes best practice and how it should be documented.** Each Guide was prepared by a separate cross-divisional working group within Supen, and subject to review by the Supen core team. The process was inevitably iterative as the precise boundaries between the guides were established and a common style was developed. The content of the six guides on principles and best practices are as follows:

#### **Governance**

1. **Fiduciary responsibility:** Board responsibilities, including when functions delegated, code of conduct and identification and management of conflicts of interest.
2. **Strategic planning:** Board to duty to approve and monitor strategies, notably for investment and IT, and ensure that these take account of risks.
3. **Organizational structure:** with clearly defined responsibilities, segregation of duties and accountabilities, which should be documented and understood. Also covers composition, selection and evaluation of Board members, Board meetings and oversight of entity management and staff.
4. **Knowledge, skills and qualities:** Fit and proper requirements for Board members, including experience and understanding, covering also technical committees.
5. **Information for decision making:** that the Board needs so that it can take properly informed decisions, and management's duty to supply it, along with communication mechanisms.
6. **The risk management framework:** with policies, processes, reporting and methodologies for identifying, mitigating and monitoring risks that could affect the objectives of the entity or the funds it manages. Also covers the internal control framework and Board oversight.
7. **Compliance:** Board duty to ensure that legislation and its own policies and directions are complied with, with relevant mechanisms and action where there is non-compliance.
8. **Transparency and accountability:** Board accountability to affiliates and other stakeholders for the accuracy and timeliness of information provided, along with communications policy and complaints handling.

#### **Investment**

1. **Strategic planning for investment:** Board duty to approve and review a strategy covering concrete objectives, the balance between risk and return and the relevant risks.
2. **Prudent decisions based on technical criteria:** Duty to take investment decisions prudently, supported by sound technical data to meet the fund's objectives and the best interests of affiliates without conflict of interest. Includes role of technical committees and control over decisions.
3. **Investment and risk policies:** Technical committee responsibilities to ensure the Board approves policies for effective investment management and risk management, including detail on what these should cover.

4. **Cost-effectiveness:** Duty to ensure investment decisions and processes are cost-effective, including costs of intermediation.

### **Solvency**

**Preface** Introduces internationally accepted concepts of solvency

1. **Responsibility for solvency:** Board duty to achieve solvency in interests of affiliates etc, including responsibilities for information, calculations, plans, conflicts of interest and related decisions.
2. **Board responsibilities with respect to the actuary:** Responsibilities for appointing qualified actuary and for checking the assumptions, information and methods he/she uses, along with ensuring timely reports and respecting actuarial independence.
3. **The actuary's responsibilities:** similar to those for the Board.
4. **Transparency:** The Board should inform affiliates and other stakeholders of the funding position and the actions to be taken restore or maintain solvency, with details.

### **Operational risk**

1. **Managing operational risk:** Actions entity management should take to identify, manage and monitor risks that could affect achievement of objectives. Includes responsibility for having capable staff and sub-contractors.
2. **Benefit entitlements:** Management processes and controls to ensure that payments to or in respect of affiliates are properly calculated and timely paid.
3. **Financial information and fraud prevention:** Management processes to detect and enable reporting to the Board of any errors in financial information or fraudulent activity, including reconciliations, validations and custodianship.
4. **Sufficiency of entity capital:** Management to ensure that the entity has sufficient capital to cover possible eventualities and risks and that the financial position is reflected in Board decision making.
5. **Business continuity:** Management to establish and test contingency and business continuity plans that ensure that the entity can keep functioning or recover functionality during and after interruptions
6. **Recruitment, training and evaluation of staff:** Management responsibilities for recruiting, inducting, training and evaluating staff so that they have and apply appropriate competencies.
7. **Divulging information:** Management duties and processes for preparing accurate and timely information for the Board, technical committees and external stakeholders.
8. **Compliance and legal risk:** Management duty to identify and act upon situations that might expose the entity to litigation or legal sanctions with financial or reputational implications, along with providing information to the Board to help avert such situations.

### **IT risk**

1. **IT governance:** Responsibility for strategic planning for IT systems, infrastructure and data taking account of cost-effectiveness.
2. **Management of IT security:** The IT department responsibility for specified aspects of data security and implementing a security plan and specified measures. Also specifies responsibilities of IT users.
3. **Management of IT systems and data:** The IT department responsibility for implementing information systems that meet the needs of the entity, its affiliates and other stakeholders. There should be effective data management that guarantees its integrity, quality, and availability.

4. **Management of IT operations and infrastructure:** The IT department to implement frameworks and processes to control databases and ensure hardware and software availability and security.
5. **IT services:** Service level agreements, ensuring IT capability and configuration keeps up with the needs of the business, and proper control of amendments to IT and resolutions of IT problems.

### **Market discipline**

1. **Publicity and information provision:** to comply with Board policies regarding accuracy of information and avoiding practices that may bring the pension system into disrepute.
2. **Customer service:** Board policies on providing affiliates, potential affiliates and the public with the appropriate information through appropriate media.

3.40 **The corporate governance principles and guides are themselves risk-based.** They do not constitute a long list of best practices of varying levels of importance, as is the case for much governance guidance. They focus on the desired outcomes and practices that support them. It is important to choose principles that express these outcomes in a way that Supen can assess. The project team worked through with Supen staff various options for doing this in particular to orientate thinking to a focus on the risks of non-compliance with best practice. The OECD Principles for pension fund governance provide one approach that is not so different from that of the Dutch National Bank (pension supervisor). Perhaps the closest model to that intended if provided by the principles and guidance published by CAPSA<sup>41</sup> Principles from Canada, although they has some omissions compared to the new SUPEN principles.

3.41 **As this Guide was being developed Conassif requested a single regulation covering corporate governance by all financial institutions.** While this regulation started with a draft of Supen's corporate governance guide, inclusion of material relevant to other supervisors resulted in further changes for harmonization purposes<sup>42</sup>.

3.42 **Preparing the solvency principles and best practices proved to be challenging given the starting point for the industry and existing supervisory tools.** An experienced local actuarial expert that was hired to assist with the project<sup>43</sup>. He contributed significantly to the analysis and drafting so as to complete the different activities within the project timescale.

3.43 **Further iterations occurred as the principles and guides were operationalized for use during on-site inspection and in particular the principles were aligned so far as possible with the risks covered by the core strategy.** A 1:1 mapping is not always possible. In some guides, such as corporate

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<sup>41</sup>Canadian Association of Pension Supervisory Authorities

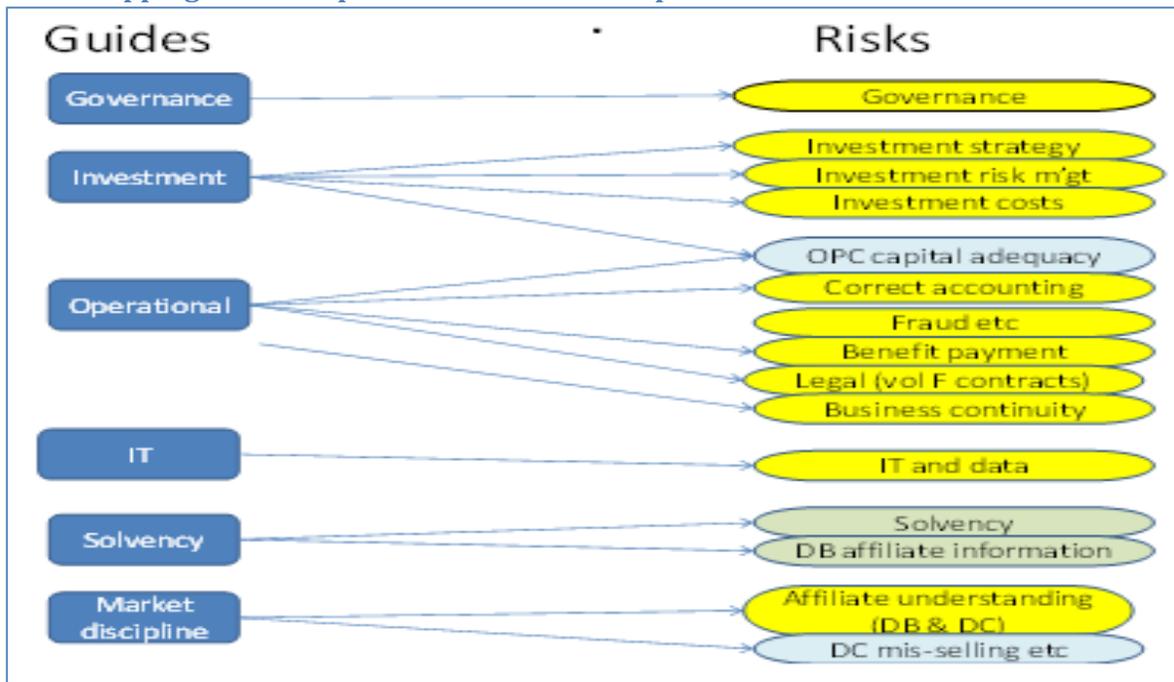
<sup>42</sup> As shown by the review by the Toronto Center after this project was finished, Conassif are interested in which areas can have harmonization across the different financial market supervisors and which areas are fine to have different or tailored approaches. Governance is perhaps one of the best areas in which harmonization is possible. Many issues identified in governance are common across different standards or across sectors – see for example the work of ISSA in addition to the work of standard setting bodies on banking, securities, insurance and pensions. That said, it is still critical to allow sector-specific rules around a common core. For pensions this can reflect, for example, that it is common to have non-specialist or worker representatives on some pension governing boards. These can be very important to ensure a focus on long-run member interest but the representatives typically do not come with a long background in financial markets. So governance principles need to focus on a common objective of a skilled and effective board, but not the need for training and regular education to reach acceptable trustee knowledge and understanding.

<sup>43</sup> The locally employed actuary was Ronald Cartin, and the authors wish to offer him their great thanks and appreciation for the quality and diligence of this work.

governance and IT, several principles map onto one risk. In other guides different principles map onto different risks. The mapping is illustrated at Figure 28 below.

3.44 The most fundamental aspect of on-site inspection is corporate governance. This can, essentially, only be tested through interview on-site, backed up by seeking documentary evidence that supports what Supen is told. The interview process to establish the existence of strong governance should also provide evidence regarding other risk categories. Questioning needs to focus on specific decisions or events – otherwise answers will be generic views on what should happen rather than specific evidence as to what did happen. Questions on governance will cover how the investment strategy was revised, how assumptions on DB funding were set or how the entity board is assured that accounting is correct or IT access secure among other things.

**Figure 28: Mapping the Principles and Guides onto Supen’s risk framework**



3.45 **When conducting supervision there will be examples where a probe into one area yields useful information for other areas or where joint sessions can be held with a number of team members looking at different areas.** For example, a general governance focused interview with the Board may yield useful information about solvency, or IT or indeed any of the focus areas. Likewise, subject specific discussions or tests may yield information about general governance quality. This cross-fertilization is very positive but it is helpful to show the main areas where there will be synergies. This is shown in the matrix in Figure 29. Each cell shows where a governance principle and a principle for another risks can be probed using a common set of interview questions.

Figure 29: Matrix of governance principles mapped to other principles

Governance	Principles							
	1	2	3	4	5	6	7	8
Operational Risk	2,3 5	4	1	1,3	3,7	1,3, 4,8	8	7
IT risk	4	1	1	1	2,3	2		1
Investment	1- 4	1,3	2	1,2 3	2,4	1, 3	2	2
Solvency	1,3	1	4	1, 3, 4	3,5	1,3	1, 2	2
Market Discipline		1,2	2			1	1	1,2

3.46 **One benefit of the new approach is that some testing of lower priority risks can easily be included if little additional resource may therefore be needed to examine them within the inspection visits.** Equally, the framework enables tests for lesser risks to be omitted from the inspection plan where they would add insufficient value.

## Chapter Four: Development of on-site and off-site supervision processes

4.1 At the start of the project Supen was undertaking on-site inspections for several different reasons, resulting in some 40 a year. In particular twice-yearly inspections were required to undertake a calibration of a limited sub-set of risks mainly relating to the investment portfolio. These were in addition to separately mandated inspections of regulatory compliance. This lack of integration was criticized, understandably, by pension fund entities. The move to an integrated approach for on-site inspection, taking account of the results of off-site inspection, is illustrated in Figure 30 and Figure 31 which show a leaner and more joined-up model going forward.

Figure 30: Pre-existing process flow for inspections before the project

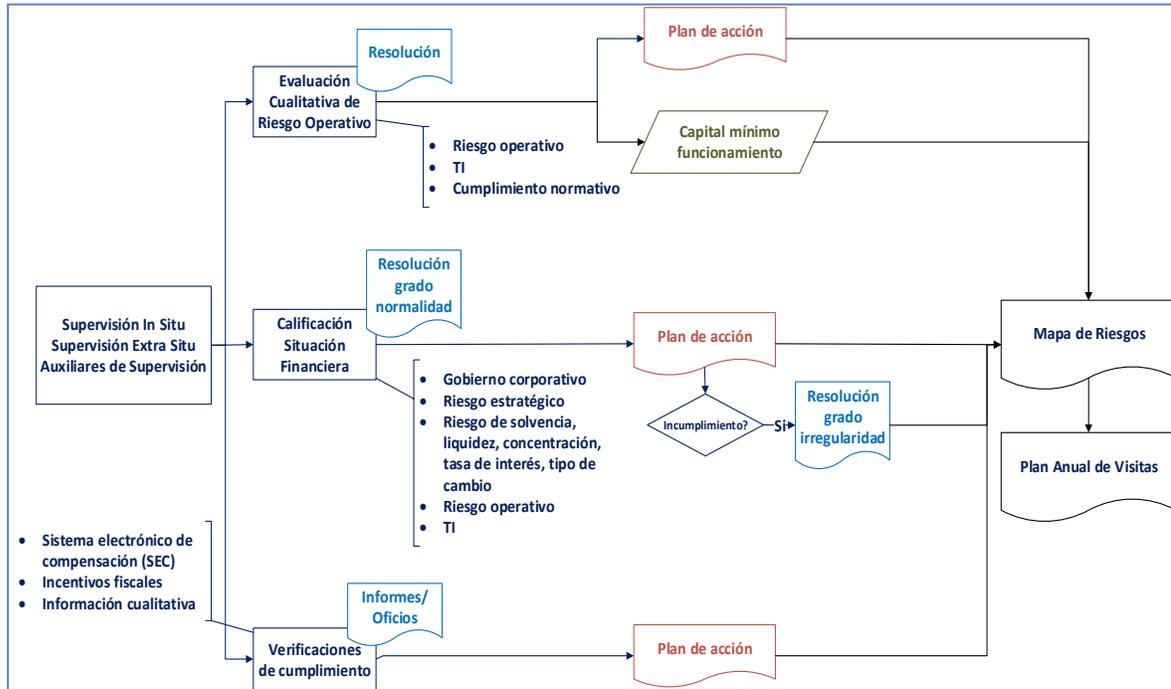
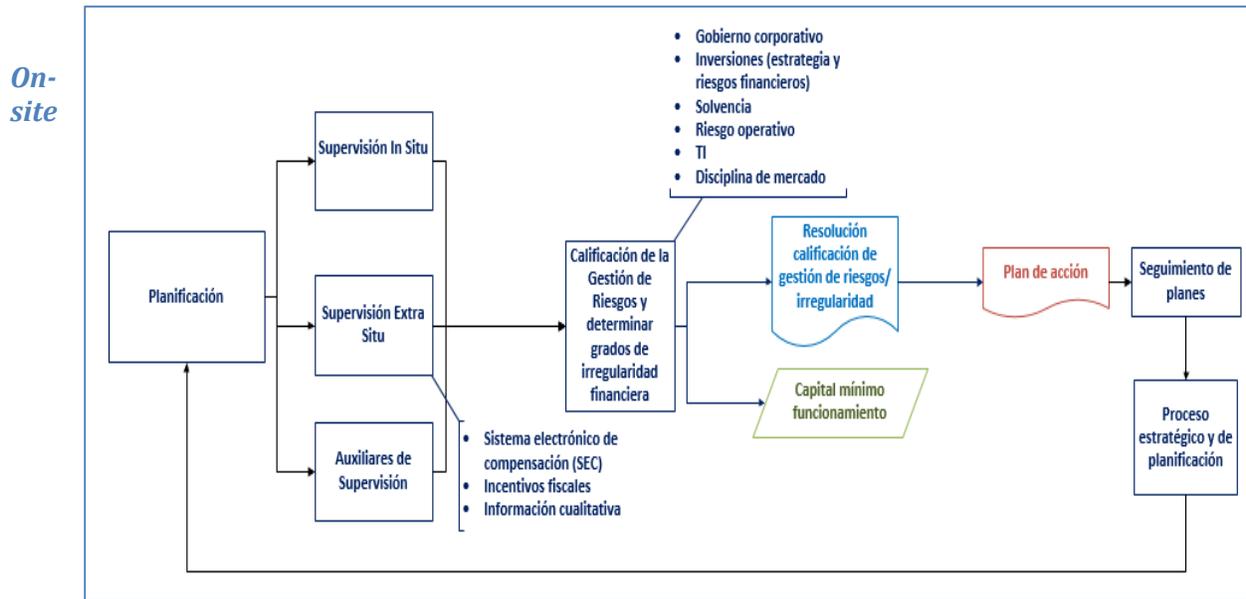


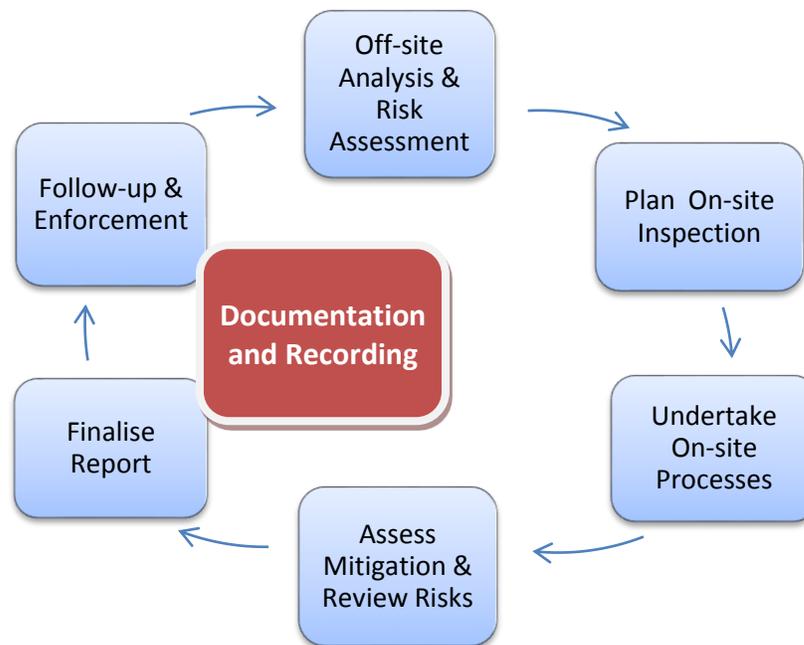
Figure 31: New process flow for inspections



processes

4.2 The central element in risk-based supervision is to assess entity compliance with Supen’s expectations. This needs to be done in a way that assessments are seen to be objective and rigorous. The results should also be usable for taking decisions on the strength of follow-up action and as input to the system risk assessment and strategy process. The process is summarized in Figure 32. This shows the whole process as a cycle, including the role of off-site analysis, planning and follow-up activity. The primary change is the increased emphasis on corporate governance and the integrated assessment methodology.

Figure 32: Illustrative schematic for on-site supervision



4.3 The evidence for making an entity risk assessment is drawn from the following sources:

- Relevant testing and analysis undertaken off-site which helps to inform questioning and provides evidence of potential weaknesses.
- Interviews with the board and senior management of the entity, focused on corporate governance but with questions framed around actual experience in managing key risks (see below).
- Testing of controls and documentation on-site, focused on the highest risks and the validation of conclusions drawn from interviews.

4.4 **The stages of the on-site inspection were work-shopped and mapped out in some considerable detail during the project.** The process can be described in words as follows:

***Planning stage***

- Each Division each year prepares a **supervision plan** (Plano de Supervision). This includes a plan for on-site supervision (which the DC team call the PAVI). The plan draws on the risk strategies revised or prepared during the annual planning round, previous entity evaluations, off-site analyses and a risk map that combines this information. The plan indicates which risks are to be inspected at which entities and when. The plan should also confirm that resources are available to undertake the proposed supervision processes.
- The plan may also identify circumstances in which there would be benefit from sending entities a **self-evaluation questionnaire**, based on the principles and guides, which can be used to inform subsequent inspections.
- Some weeks before an inspection is scheduled the Division should prepare an **entity inspection plan**. This should be prepared following a team meeting to consider the inspection. It should draw on more recent off-site analyses, the monitoring of the previous action plan, the results of any self-assessment questionnaire and other information available to Supen. It should specify in detail the issues to be examined and the members of the inspection team, taking account of any need for specialist expertise. It is possible that having examined available information the team will decide that the planned inspection is not needed or at least that it should be deferred.
- Once the plan is prepared Supen should **notify the entity**, requesting the facilities and information that will be needed during the visit, any information to be sent in advance (such as meeting minutes) and the names of the visit team, in particular who from Supen will be co-ordinating the visit. It should also request a named contact at the entity.
- The team leader for the visit should then **allocate team roles**, making it clear who is responsible for obtaining evidence on which risks, and who will take which role at which meetings. In allocating roles the linkage between governance and risk principles (as in the matrix at Figure 28) needs to be respected. Additionally, the coordinators at Supen and the entity should agree the program of interviews and testing with the entity, so that interviews are held with the right people in the right sequence. To provide sufficient coverage, and to enable team members to support each other during interviews, the team should usually comprise at least four members.
- Each team member then **prepares the specific questions** relating to their assigned risks to be asked during interviews with key staff. The questions seek to identify whether points in the guides are being implemented. The principles and guides should provide a starting point. Questions should be made specific to the circumstances of the entity, exploring events that have happened to see how the governance worked in practice and risks were controlled. Hence they should draw on the information available off-site.

***The inspection***

- The inspection starts with an **opening meeting**, where the team explains to board members and other senior officials in the entity the approach that is being followed and what this will involve.
- There then take place the **interviews with board members and other relevant senior officials** in the entity focused on the governance of the entity, often by exploring how other risks have been mitigated (or not). Where the board is relatively small each director can be interviewed on their own. For larger boards they can be interviewed in groups. Separate interviews are important to deal with the impact of a dominant Board member. Senior officials should include the senior executives responsible for the risks being examined, and often key officials such as the internal auditor or head of risk unit. The key points should be documented immediately after the meeting. It is desirable, at least while risk-based supervision is becoming embedded, that the team hold a short meeting after the interview to agree what the main points were. The record of the interview may be submitted to the person(s) being interviewed for their agreement, especially if there is a possibility that it would need to be used as evidence in subsequent proceedings. They should in any case be electronically filed (on Case Management software if possible).
- Once all the initial interviews have been completed, the team should hold a longer **meeting to discuss the provisional findings**. This should take the form of an assessment against the relevant parts of the principles and guides. It should enable the team to decide where more work is needed to validate the provisional findings. Hence, changes may be needed to the testing program. It may also identify the need for further meetings, with lower level staff or repeat meetings with those already met. The record of the initial assessment should be electronically filed (on Team-mate if possible).
- The team then undertakes the **testing and further interviews** necessary to complete the inspection and enable an assessment of the risks and issues specified in the inspection plan.

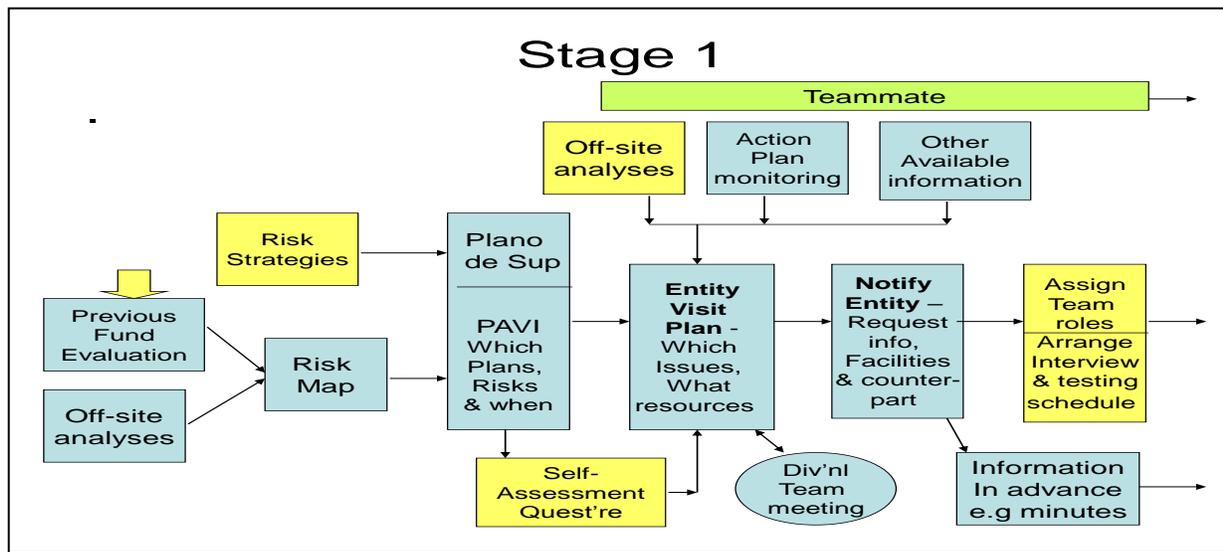
#### ***After the inspection***

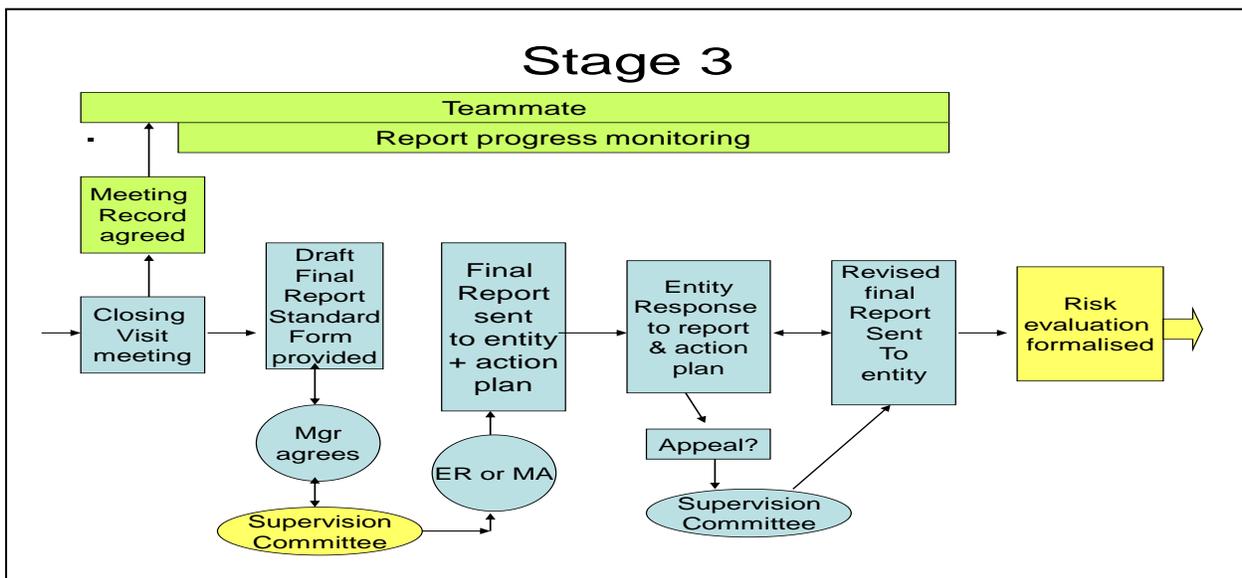
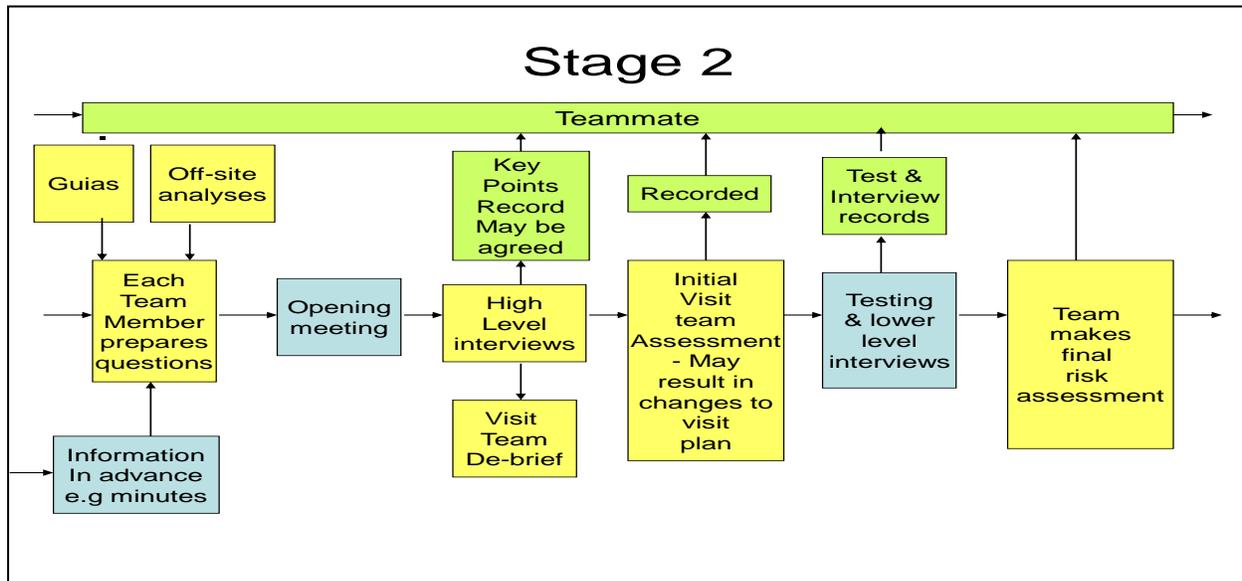
- The team undertakes a **final assessment** of governance and the risks examined, holding a meeting for this purpose and documenting their conclusions on standard forms (placed on Case Management Software if possible). If serious problems have been found the team should also consider whether penalties or intervention are appropriate, and discuss their conclusion with the divisional manager (escalated to the Superintendente or Intendente where appropriate).
- The team then presents its main conclusions to the entity Board at the **closing meeting** of the inspection. This presentation should also include provisional recommendations for remedial action and any penalties or other forms of intervention that are contemplated. The Divisional Manager (or Superintendente or Intendente) may wish to attend where such action is contemplated or the entity is sensitive. The response of the Board may result in changes to conclusions or recommendations. A record of the meeting should be documented and copied to the Board for their agreement. It should be electronically filed (on Case Management Software if possible).
- The team should then **prepare the formal inspection report**, using a template based on one supplied by the World Bank. The report should, where appropriate, include an action plan for the entity to take remedial action within specified timescales. The report should be submitted to the Divisional Manager for review and then to the Risk Committee for peer review.
- Once agreed, the **final report** should then be submitted to the Superintendente or Intendente who will send it to the Board of the entity. A standard format for such a report was provided by the World Bank team.
- The entity **Board should formally respond** to the final report within a specified period, providing a completed action plan. Where there are disagreements relating to facts or the practicality of

recommendations Supen should attempt to negotiate agreed wording so far as possible without compromising important points of principle. Agreeing the report should facilitate legal action if remedial action is not forthcoming. At this point the entity may appeal Supen’s risk assessment to Supen’s Risk Committee. This would be the committee deciding the supervisory approach for each pension fund (which is distinct to the Strategic Risk Committee that decides on strategic risks and planning).

- Once all outstanding matters have been resolved a **revised final report** should be provided to the entity Board for their agreement.
- The **risk assessment should then be finalized**, and placed on Case Management Software. It should be a starting point for the next year’s planning, and be used to revise the overall assessment of risks in the system (risk map). Progress on implementation and compliance will be tracked as part of the new monthly and quarterly processes for Strategy and Planning.

Figure 33: On-site inspection diagram





4.5 It was agreed that this process would be documented in Supen's guidance documentation for staff. Such documentation should include also generic questions taken from the principles and guides and converted into inspection forms. The new approach may represent a culture shock for Boards that are used to meeting the supervisor only where serious problems have been found – hence the importance of briefing them well in advance – and the multiple stakeholder events held during the life of the project.

4.6 It should be noted that because many sets of questions relate both to governance and a specific risk in addition. So there is a risk that significant failures will be penalized twice. The detail of the risk rating methodology is covered in the next section of this report and shows how to deal with this situation.

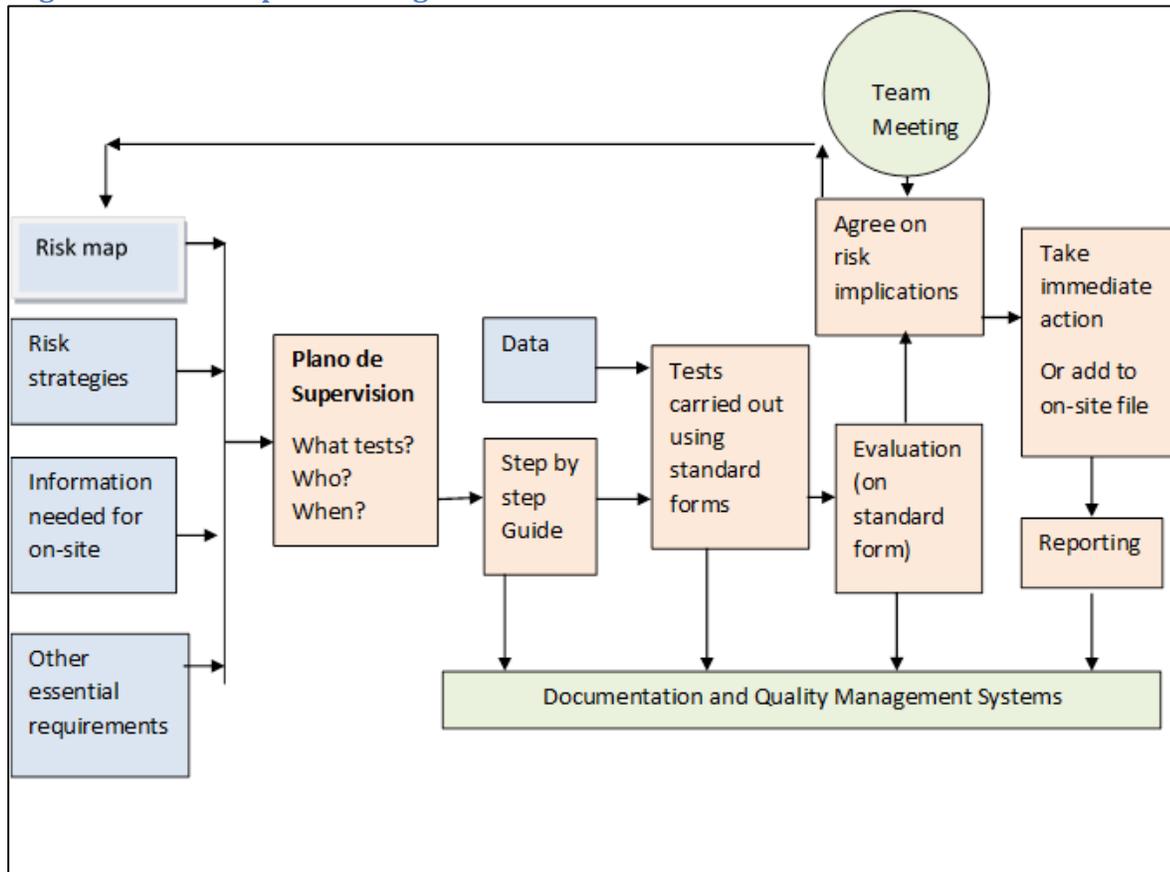
4.7 This new approach represents a major change for Supen staff and hence was a priority for the capacity building provided during the project. A key message during this training was to emphasize that the inspection team should be seeking to ascertain is **substance not form**. The following points were made relating to preparing and asking questions of Board members and senior managers:

- Apply knowledge from off-site analysis, board minutes or documents in advance to formulate precise questions, check out detailed knowledge and ‘put interviewee on the spot’.
- Let the Board know in advance the broad subjects to be covered, so that they are able to answer questions.
- Agree team roles:
  - Who asks questions, on which subjects,
  - Who asks supplementary questions,
  - Who records answers; and
  - Who watches the dynamics of the meeting to observe what is not being said and what is really happening.
- Ask open questions.
- Also ask questions that seek specific examples.
- Hence, the questions should be specific to the entity, although a generic bank of questions can be developed to make it easier to design the specific questions.
- The preparative work, using off-site analyses etc, should enable the team to know what answer to expect and to be able to probe further where the answers are different.
- Use supplementary questions to drill down into sufficient detail to obtain convincing and relevant answers.
- Seek confirmation where answer is unclear, remarkable or strange, and also to pin the interviewee down to agreeing Supen’s interpretation of what has happened. These should be the only yes/no questions used.
- Avoid invitations to waffle and talk about subjects in which they are fixated.
- Meet briefly after each meeting to check out understanding of what was said on key points and draw initial conclusions from the interview.

### *Off-site supervision processes*

4.8 **During the project the processes for off-site supervision were work-shopped.** This final output is shown in the flow diagram in Figure 34, below. The off-site approach deliberately shares some process elements with the on-site to ensure close alignment.

Figure 34: Off-site process diagram



4.9 The detailed process can be described in words as follows:

- The annual **Plano de Supervision** prepared by each Division identifies the off-site tests that have to be carried during the year. It is based on the risk strategies, which identify which tests are needed to mitigate the risks. It draws on the risk map for entities, the information needed for specific questions to be asked on-site, and any other essential requirements that have been identified. It specifies what tests are needed, when and how often they are carried out and who undertakes them. It also specifies the data requirements.
- For each test required by the Plano de Supervision, a **step by step guide** should be prepared explaining what has to be done. This is linked to the standard forms to be used.
- The **tests are carried out** as specified, documented on the standard forms. The completed forms should be electronically filed.
- When a test has been completed the **results are evaluated**. The standard forms should provide for this evaluation.
- Any test producing negative results should then be subject to **risk assessment** to determine the implications for the entity's and the system's risk profile, and hence the risk map. This should be undertaken in a team meeting.
- The team meeting should then agree **what action should be taken**. This could be through immediate contact with the entity, if serious including the threat of enforcement action. Or it could be flagged up for attention during the next on-site inspection through a file note.
- There should be periodic (monthly or quarterly) **reporting** of the results of all tests carried out, regardless of the results. This should be electronically filed.

**4.10 The precise specification of each test depends on the requirements of the relevant risk strategy.**

The way in which the tests interact with on-site supervision is documented on the inspection planning and assessment forms. Many of the tests will be unchanged from current practice. Figure 35, provides a list work-shopped during the final technical assistance visit, but excluding solvency risks for which off-site tests are specified in a later section of this report. Some investment tests have been added.

**4.11 This list may well not be exhaustive. Supen staff will analyze how they fit within the off-site and on-site assessment processes in the light of experience.** A follow-up activity will be to work through all the tests currently undertaken to see which can be dispensed with, as part of the preparation of the annual Plano de Supervision.

**Figure 35: List of off-site tests (excluding solvency risk related tests)**

Risk	Test	Frequency
Governance	Approval of directors and senior officers (check fit and proper)	Reactive
	Review of meeting minutes received	Reactive
IT and data	Review of IT profiles provided by entities	Annual
	Review of internal audit reports for coverage and content	Twice-yearly
Operational Risk - general	Review of internal audit reports for coverage and content	Twice-yearly
Correct accounting & Fraud/financial misconduct	Check that daily accounting reconciliations take place	Weekly
	Re-performance of accounting reconciliations	Twice-yearly
	Check for duplicate accounts	
	Check for phantom accounts	
	Check of systems and controls at the custodians – also relevant to benefit entitlement and investment risk management	Annual
	Check for transactions that might indicate money-laundering (if any is needed beyond any work of the auditors)	
Benefit entitlement	Test benefit entitlements of payments made to affiliates and pensioners	Monthly
OPC capital adequacy	Check that OPCs hold capital in accordance with regulations	Quarterly
Mis-selling	Checking of marketing materials	Reactive
	Approval of sales agents	Reactive
	Investigating complaints	Reactive
Investment risks	Review of strategy for compliance with best practice and analysis of internal consistency	Reactive
	Analysis of investment portfolios for regulatory compliance, consistency with the entity’s investment strategy and to supply questions to ask on-site	Monthly
	Analysis of the costs of investment for different asset classes compared between funds	Monthly
	Analysis of the source of investment profitability to monitor trends, identify non cost-effective investment and other oddities, and raise questions about the investment strategy	Quarterly
	Scenario testing to assess impact of significant negative market events to see how well the asset allocation handles these	Annual

	Review of internal audit reports for coverage and content	Twice-yearly
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4.12 **Specific recommendations were made for actuarial tests (covered in a later section) and investment tests.** Risk strategies were developed covering investment strategy, investment risk management and the cost-effectiveness of trading. These strategies include on-site testing of the necessary mitigation processes, supported by off-site modeling intended to help Supen assess the quality of investment strategies and the way they are implemented. Detailed training and discussion sessions were held with Supen staff particularly involved in investment, with covered:

- Setting long run investment objectives for pension funds;
- A rigorous process for determining the appropriate strategic asset allocation, including supporting analyses and governance;
- Approaches to modeling investment risk and return and what sort of support does Supen need to build the necessary analytical and modeling capability; and
- The priorities for delivering investment regulation and supervision consistent with the dynamics of the market in Costa Rica.

4.13 **Care needs to be taken not to just adopt a U.S. or European framework since the lack of a large home country equity market makes the Costa Rican situation very different.** Stochastic modeling of outcomes for example has questionable value without a long time series of domestic assets in which funds are actually invested in addition to overseas assets. Even then, the currency risk is significant and potentially hard to model. Identification of potential scenarios would, however, seem to be useful and important. That said, to ensure that all angles were investigated a potential externally developed stochastic model tailored to pension funds was investigated. It was demonstrated to Supen staff and considered as part of the toolkit. But it was concluded that the focus of work on investment should be on ensuring the basics of investment management were in place rather than being side-tracked on spurious levels of sophistication. This judgment will change over time as the Costa Rican market changes but it was not the initial priority.

4.14 **Overall the investment sessions concluded that:**

- Supen is able to assess the likely results from the system in terms of replacement rate at retirement, which is an appropriate measure in the Costa Rica environment. Analyses show that the original ambition for the DC system was over-optimistic, as are the objectives for the main DB regimes given their funding/contributions.
- The use by pension funds of target levels of return seems reasonable if they supported by proper analysis – not currently the case. Some OPCs are setting targets relative to their competitors which leads to herding rather than a focus on long-term retirement income and should be discouraged. There is much work for Supen in raising the standard of strategic thinking.
- In revising the investment regulation, it was agreed that Supen needs to develop principles governing pension fund best practice and ‘must-haves’ for the primary law.

#### *Other actions arising from the prioritized strategies*

4.15 A focus **on governance cannot mitigate every risk or mitigate all serious risks sufficiently.** Obviously it is not effective for risks outside entity control. Nor is the strategy relevant for risks, such as excessive commissions, where the board’s interests run counter to risk mitigation. Some risks, such as relating to fraud and correcting accounting, may lack visibility to entity boards and/or need to be detected much more quickly than would be the case if annual inspections are relied upon. Hence, Supen also needs other actions including:

- **Regulatory change**, where supervised entities cannot be relied on simply to follow best practice, or indeed where regulation is not aligned with Supen’s approach, as is the case with the provisions on operator capital requirements.
- **Communication campaigns**, for instance with employers, employees and the general public, to improve understanding and awareness and hence behaviors that reduce risk to Supen’s objectives. Another example is the planned publication of solvency data across the DB funds so that directors, managers and affiliates can benchmark their position and review the adequacy of their policies.
- **Liaison with other supervisors and governmental organizations**, most notably the Caja.

### Documentation and assessment of inspection results

4.16 **During the project various recommendations were made on the documentation of on-site and inspection processes.** Supen do not have an inspection manual as such. Instead different elements of the process are documented in their quality assurance system documentation. Figure 36 sets out the various components of documentation that are equivalent to a manual for Supen supervision staff.

**Figure 36: Supen documents equivalent to an inspection manual**

Manual chapter	Supen equivalent
1. Introduction, concepts and context	Conceptual framework
2. Annual plan for each supervision department	Final part of the documentation of the strategy process - Will be specific to each division but applying a common set of processes, risk map etc
3 On-site processes: visit planning, execution, reports, risk assessment, action plans and approval	As in documents developed by project team
4. Inspection planning and assessment programmes	Detailed form to be used to record for each principle and Guide questions to ask, other evidence to seek, assessment and relevance to overall grading
5. Off-site processes	Documentation already exists for current processes many of which will continue albeit with different periodicity specified in annual plans. Some new processes needed for solvency already specified within the project; investment and other new tests as required by risk strategies
6. Risk evaluation and scoring process	Document provided during the project
7. Action plans	Documentation of format and follow-up already exists
8 Staffing, skills etc	Documentation of various aspects already exists in various places – single document prepared signposting to other documents

4.17 **Once the necessary evidence has been gathered it needs to be recorded. An Excel inspection planning and assessment form was developed.** It was populated with on-site and off-site tests for each of the six Principles and Guides. Completing the form is an effective way of documenting decisions made in planning, the work to be undertaken during off and on-site inspections and the

results of the assessment. For the size of the market and the number of entities and risks it was not considered necessary to have bespoke RBS software.

**4.18 The structure of the Excel tool for on-site and off-site supervision is as follows:**

- Column A: Is left deliberately blank;
- Column B: Is taken straight from the text of the relevant Guide of principles and best practices, which provides the subject matter for inspection. Each Principle is allocated a separate worksheet and each best practice a separate line;
- Column C: Documents any off-site test(s) that are relevant to the best practice in question. Every off-site test should be included within the assessment forms, but not every best practice need have an off-site test – the majority will not. These tests include the results of internal and external audits and the investigation of complaints;
- Column D: Records the rating of the extent of compliance with the best practice arising from the completed results of the off-site test(s), using the TMPN rating methodology (explained further in the next section of this report);
- Column E: Provides reasons for the rating given;
- Column F: Records the rating of the relevance of any failures of compliance with the best practice arising from the completed results of the off-site test(s), using the rating methodology explained further in the next section of this report;
- Column G: Provides reasons for the rating given;
- Column H: Enable a cross reference to any extra documentation of the off-site test(s), if used e.g. notes of off-site reviewer to ensure full evidence base behind decisions;
- Column I: Is used to record the implications, if any, for the results from off-site testing for the on-site inspection. It may be that the results are sufficiently good that no further testing is needed. Alternatively, they may be so bad as to increase the priority of on-site testing. They may provide some specific questions to ask of governing board or senior management;
- Column K: Records exemplar questions to be used on-site, which have been pre-completed. For the governance form these refer to questions about the management of other risks where appropriate. These will develop over time with experience – this should be a living document. More specific questions can be added relating to the findings off-site.
- Column L: Specifies which documents at the supervised entity and processes might need to be examined to gather further evidence on-site - and to ask the pension fund management to ensure they are available during the visit. Depending on the results of off-site tests, and on-site interviews, it may not be necessary to undertake all or any of these tests;
- Column M: Identifies links to any other principles in the same Guide or other Guides - to assist other teams in preparation of areas on which to focus and to enable the results from this principle to be taken into account in assessing the other principles;
- Column N: Enables cross references to additional documents created by SUPEN staff during the on-site that record the results of any tests including minutes of meetings written by SUPEN;
- Column O: For insertion of the proposed rating for the on-site assessment of compliance with the best practice, from the interview and testing evidence, using the same TMPN rating scheme as for off-site testing;
- Column P: Insertion of a summary of the reasons for the rating including key relevant findings;
- Column Q: Records the rating of the relevance of any failures of compliance with the best practice arising from the on-site interviews and testing;
- Column R: Provides a summary of the reasons for the relevance rating; and

- Columns T and U are provided to enable comments to be made about future off-site and on-site tests that should be developed.

4.19 **At the bottom of each principle, a table is provided to enable rating of the principle.** The form has been designed to enable the results of off-site tests to be set out on the same line as on-site assessment.

4.20 **Using a combined assessment form for off-site and on-site inspection should make it easy for off-site results to be taken into account in making an assessment after an on-site inspection.** It also provides an opportunity to document the relevance of the off-site results for on-site testing. In most cases the results of off-site testing will not be problematic enough to justify immediate action. Follow-up can be left to the next on-site inspection. Where the results are particularly problematic, there should be immediate follow-up in the form of off-site questioning, a formal letter with action plan or special on-site inspection. A rule of thumb could be extensive non-compliance assessed as relevant or very relevant or a single compliance failure assessed as very relevant. This should, however, be a matter of judgment not a fixed rule. For serious failures there may be value in scoring the whole principle so as to formally determine the supervisory response.

### *Assessment rating methodology*

4.21 **A risk rating is undertaken upon the completion of an on-site inspection for three main purposes,** the first two of these are also relevant to assessment following an off-site test, in addition to which off-site test results may inform all types of on-site assessment:

- To determine which findings as regards compliance with Supen’s expectations Supen should report to the entity;
- To determine the intensity of subsequent supervisory action; or
- To assess whether additional capital requirements should be placed on OPCs because of the risk level.

4.22 **Assessment against the agreed governance and risk management principles is the fundamental objective of risk assessment.** Assessing best practices supplies supporting evidence for the assessment of principles. The assumption is that an entity’s board and management will minimize the risk to the pension system’s objectives if they comply with the principles set out in the Supen guides. The extent of compliance with the best practices that are subordinate to those principles provides evidence as to whether each principle is complied with. In practice, some failings against the best practices are much more relevant than others. Hence as well as indicating how well the practice is complied with, there needs to be a measure of relevance to the principle and the impact of risk materialization.

4.23 **The evidence used to assess non-compliance on-site can come from interviews during the inspection, the examination of documents or processes during the inspection and the results of relevant off-site tests already undertaken.** In the case of off-site tests the evidence is obviously limited to the last of these. In any event, the most reliable results are obtained where assessment is undertaken or validated on a team basis, especially if different risks or principles have been allocated between team members. Compliance with the principles is to be assessed on a 4-point (TMPN) scale:

- Totally compliant, or very strong;
- Mostly compliant or strong;
- Partially compliant or moderate; and

- Not compliant or weak.

4.24 **The relevance assessment can be thought of an assessment of the likelihood of a serious impact.** The purpose of the relevance assessment is to enable decisions on how seriously failures in the best practice or principle concerned should be treated. Without it the approach is not entirely risk-based. Combining compliance and relevance in the rating effectively helps Supen to determine the probability and impact of each failure, and hence the overall level of risk to Supen’s objectives. The rating of relevance can be restricted to practices where compliance is less than full/very strong. Relevance can be rated as follows:

- **Very relevant:** The lack of compliance has resulted in or materially contributed to a risk materializing to the detriment to affiliates or the reputation of the system. This is by definition a very high probability of a risk fully materializing (a certainty indeed).
- **Relevant:** The lack of compliance could have resulted in a risk materializing, to the detriment of affiliates or the reputation of the system, had the entity been less fortunate. For instance, there is no effective control on money transferring between accounts without good reason, such transfers have indeed happened but no-one has exploited the failure to commit a fraud. This means that there is a fairly high probability of the risk fully materializing in future even though it has not materialized yet.
- **Marginally relevant:** The lack of compliance has had a small but significant impact on the pension fund’s risk exposure, but there has been no actual detriment to affiliates or the reputation of the system. So, there is a probability that this could result in the risk materializing at least partially.
- **Irrelevant:** The lack of compliance does not have any significant effect on risk (including that the best practice is not applicable to this entity).

4.25 **Judgments as to relevance depend crucially on which risks are impacted.** This is especially important for governance. Most significant governance non-compliance will be found through the questioning of how the management of other risks has been undertaken or overseen by the Board or senior management. Indeed, a governance compliance issue is highly unlikely to be categorized as relevant or very relevant unless there is some impact on another risk. There are also some linkages between risks other than governance. For instance, for DB funds, poor data quality may be related both to correct accounting and to solvency<sup>44</sup>. Therefore a serious failure will be given a high weight not just in relation to a particular principle but because there is an effect on multiple principles.

4.26 **Focusing on compliance failures is likely to be more efficient than focusing on assessing the strength of compliance.** Effort need only be put into evidencing non-compliance. Proving a positive is easier than proving a negative. It also enables Supen inspection staff to omit testing some best practices if they conclude that they enough evidence to make an assessment of the principle from the best practices already examined. In such cases, little value would be added by assessing all of the best practices.

4.27 **The intention of rating principles is to provide an overall risk score/calibration for each principle.** In summary, combining compliance with consequence can be thought of as combining the probability of a serious failure with the inherent impact score relating to how serious (impactful) is that risk. The three dimensions involved are:

- **Compliance** with the principle;

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<sup>44</sup>As another example, a poor quality strategy could have arisen from poor knowledge and understanding, relevant to both governance principles 2 and 4.

- The **consequence** (actual impact) of the specific non-compliance found, taking some account of past failures against the principle at the entity; and
- The **inherent impact** of the risk that has been affected as it relates to the entity.

4.28 **The compliance assessment combines the assessments of component best practices.** This should not be done too mechanistically as there are different numbers of best practices for each principle and these practices vary in their importance. Some are related, some are not. It is better instead to use judgment, albeit informed by reviewing the ratings of the component best practices. Experience shows that in many cases an agreed judgment can readily be obtained through discussion within the inspection team. Where the assessment team cannot reach an agreed judgment, or is not confident in its judgment, the team judgment can apply a more mechanistic approach (an exemplar methodology was supplied) but should also seek advice from senior officials.

4.29 **Examples of what very strong and weak compliance look like for each principle also help with the assessment process.** This was done for governance principles as part of the familiarization process with governance concepts early in the project. Generic definitions can be used as follows to evaluate compliance with the principles:

- **Strong/mostly compliant:** The principle is complied with in substance but some of the documentation expected by Supen is missing or there have been isolated incidents of non-compliance that have been quickly resolved without any significant impact.
- **Moderate/partly compliant:** The principle has been complied with some aspects but not others, as there has been some attempt to comply with most of the principle.

4.30 **The second dimension in scoring principles is the likely consequence of the compliance failures that have been found.** This is primarily based on the relevance ratings of best practices. Usually, the worst relevance rating given to individual best practices should be used. This is because if a compliance failure has caused or is likely to cause the risk to materialize, this is equally the case whether it is due to the failure against one best practice or many. The rating may need an additional upward adjustment to reflect serious consequences in previous years. Negative consequences found in the previous three years should be added to the consequence score.

4.31 **The final dimension of the rating process is to make an adjustment reflecting the inherent impact.** This reflects the fact that some risks matters to Supen more than others. Hence some compliance failures matter more than others. The maximum inherent impact rating used should be that given on a system-wide basis (as part of the corporate risk analysis and strategy process) for the risk to which compliance failures are relevant. But, there may be entities where, due their size or other attributes, the inherent impact used is less than the system-wide impact.

4.32 **An arithmetic risk scoring methodology is applied.** This converts ratings of compliance, consequences, previous risk failures and inherent impact into an overall score for each principle. The formula to be used by Supen is<sup>45</sup>:

$$\text{Principle Score} = \text{compliance} \times (\text{consequence} + \text{previous failure adjustment}) \times \text{inherent impact}$$

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<sup>45</sup> The risk formula may be an area that is updated following comparisons with the methodologies used by other supervisors – but the original methodology is shown here as developed in the project. Whatever formula is chosen it is important not to let a mechanistic formula over-ride good judgement.

4.33 **The numerical values assigned to each the elements in the formula have a maximum possible rating for a principle of 15:**

- **Compliance** is scored on a four-point scale, as indicated above, with '0' being full/very strong and '3' being non/weak. Very strong compliance implies that there is zero risk to this principle.
- **Consequence** is scored on a four-point scale with the worst score, equivalent to 'very relevant' scored at '4' and best score, irrelevant, scored at '1'. The minimum rating is non-zero because compliance failures are relevant even where there is no effect from them.
- **The previous failure adjustment** adds a score of 1 to the consequence score if there has been a relevant or very relevant failure against this principle in the previous three years.
- **Inherent impact** applies a downward adjustment where it is below the highest level and hence a percentage should be used. It is suggested that, to start with high impact be assigned 100%, medium impact 75% and low impact 50%. In due course be possible, for some risks such as solvency, for the impact rating could be set proportional to a quantitative metric such as size of DB funding deficit or investment portfolio.

4.34 **The multiplication within the formula reflects the fact that different elements of the overall risk exposure compound each other.** The documentation for the assessment and rating of best practices and hence each principle using the inspection assessment form has already been explained. For ease of use there is also an inspection summary form, Figure 37.

**Figure 37: illustration of the summary risk assessment scoring form for an OPC**

Entity:		Date of inspection:			
Governance Guide					
Principle:	A. Compliance (0-3)	B. Consequence (1-4)	C. Previous failure adjustment (0 or 1)	D. Inherent impact (1/0.75/0.5) for risk(s) - specified	Total (A*(B+C)*C) Maximum :15
1. Fiduciary duty & conflicts of interest:					
2. etc					
Total for Governance Guide					
Investment Guide					
1. Investment strategy					
Total for all Guides (D)					
OPC capital percentage score (OPCs only) [(360-D)/3.6]					

4.35 **The form should indicate which risks are impacted (and hence supply the inherent risk rating).** The above form is for an OPC and would include every principle from every guide except that for solvency which would be excluded altogether. For the defined benefit funds solvency would be included and the principles in the investment and operational risk guides relating to OPC capital excluded, along with the percentage score for OPC capital purposes.

4.36 **Aggregating the scores for each Guide has little practical value beyond giving a broad indication as to where the strengths and weaknesses of each entity lie.** Summing the scores of the Guides

to give an entity score has limited value for the defined benefit funds, although it may help determine the frequency of inspection of the smaller funds where an annual inspection may be disproportionate to the level of risk. Placing all the scores in one summary document also helps to identify which is the worst score, which is a starting point for deciding on the overall supervisory response, see below.

### *OPC capital requirements*

4.37 **An important task for the project was to decide how OPC risk capital should be determined in future.** The current system relies on a 400 plus self-assessment questionnaire, validated by Supen. It focuses on compliance with legal requirements regarding operational and IT risks with a few questions also on governance compliance. The resultant score is used to determine whether an OPC should hold additional (risk) capital (in two bands) in addition to the legally determined minimum capital<sup>46</sup>. This has proved effective in driving OPCs towards better legal compliance and operational control. Nearly all of them are no longer required to hold additional risk capital. The OPCs criticize the process as being bureaucratic, leading to a focus on less important matters and unfair cliff-edge effects where an OPC is close to a threshold<sup>47</sup>.

4.38 **Supen agreed that this process is no longer appropriate. It is not risk focused. It does not cover all the risks that an OPC should be managing.** It was therefore agreed that the integrated approach to inspection and risk assessment should in future be used to determine whether additional capital should be held – subject to the final agreement of Conassif on a new regulation incorporating this approach. Hence, the overall score for the principles and guides will be used. It will be mathematically adjusted to convert the non-compliance rating into a compliance percentage for consistency with the current approach. The question arose whether it is valid to combine principles for OPC capital purposes without some explicit weighting for the amount of risk each principle represents, as is done in countries such as Chile. In practice, the inclusion of the inherent impact factor does apply a weighting within the scoring of principles that relates to Supen's assessment of how important is the risk affected by a compliance failure with any principle. So, no other weighting is required.

4.39 **Where Supen decides on risk grounds not to inspect a particular risk or principle at a particular entity in a given year, the score assigned to those principles should be zero or the rating used for that principle in the previous year if different and available.** The default of zero means that an OPC would not be punished because of the decision. Supen may have to give an OPC the right to request that the principle in question also be inspected if the rating is above zero and they have real cause to believe that an additional capital requirement will result.

### *Supervisory response*

4.40 **The supervisory response to each principle and guide is based simply on the numerical score for the principle.** In practice, Supen management may determine that the level of response indicated by the table is disproportionate or impractical taking account of the particular circumstances. Hence, it is a maximum response level. In particular, if only one principle has a high rating it may be treated as an isolated aberration. The response derived from scoring is a guide for consistency not a rule for slavish application.

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<sup>46</sup>There is also provision for additional risk capital if OPC investments are too volatile. This requires Supen to undertake detailed analysis of volatility with little beneficial effect. The law does not prevent the capital from being held in the bank accounts of the parent company which results in a much greater risk exposure.

<sup>47</sup>The cliff-edge arises from the yes-no nature of the scoring so that one small failure can lead to a failure on an entire question. One OPC gave the example of a question being failed because a birthday cake had been wrongly accounted for.

4.41 The supervisory response indicated by the supervisory response matrix will need to be reviewed against past precedent and other similar cases (Figure 38). If the response indicated appears to be out of line, the rating of the principle should be reviewed and if appropriate adjusted. It is in any event not really practical to send an entity a range of reports of different types according to the supervisory response determined. Subject to application of judgment, the inspection report should take the form of the most serious type of report indicated by the principles that are covered, indicating which matters merit that level of gravity and which are of lesser importance.

**Figure 38: supervisory response according to the rating of each principle**

Principle rating	Supervisory response - immediate	Effect on future inspection
12-15	Financial irregularity 3, with intervention	Repeat inspection within a few months
8-11	Financial irregularity 2, with a fine if practicable	Probable repeat inspection within six months
6-7	Financial irregularity 1, with the threat of a fine if practicable and	Consideration of need for repeat inspection earlier than 12 months
4-5	Action plan 3	Principle needs to be re-inspected in next routine inspection
3	Action plan 2	Principle needs to be re-inspected in next routine inspection
2	Action plan 1	Principle needs to be re-inspected in next routine inspection
0-1	No action plan needed	Principle could be omitted from following year's inspection

### Solvency risk and Actuarial Issues

4.42 **There is a severe mis-match between what is being promised and what is affordable at some of the DB funds. This is one of the most serious risks in the system.** The level of actuarial expertise employed by the funds varies. The actuarial methods are not always up to date – for instance there is no market-based measure of the liability in most cases. Actuaries may be influenced to use aggressive assumptions to minimize concerns about a deficit. These issues are compounded by the limited actuarial capacity at Supen. Hence, the project gave particular attention to raising actuarial capacity at Supen and delivering tools that could help change pension fund behavior. In addition to developing an understanding of the issues and actuarial best practice, the project provided extensive iterative help to Supen with the delivery of five key outputs to assist the **assessment and mitigation of solvency risk**:

- The **Guide on solvency risk principles and best practices** – translating the best practice brought by the project team into guidance relevant to Costa Rica.
- Improving their **actuarial model** to allow Supen to make their own assessments– arranging for local expertise to guide and review the development of this model.
- The publication of comparative statistics for the DB funds in a '**DB Landscape Report**' – conceived as a way of establishing Supen's authority, enhancing their knowledge base and identifying good and bad practice by enabling comparison with peers and encouraging discussion about the information.

- A **revised actuarial regulation** setting out requirements for actuarial credentials, processes, methods and assumptions, including a clear definition of a liability measure for solvency determination.
- **Guidance on the supervisory processes** needed to verify compliance with best practice aligned with the inspection methodology used for other risks outlined already in this report.

### *Recommendations for changes in actuarial practice*

4.43 **The funded status for Costa Rican DB funds is typically reported on a projected basis (current assets plus future contributions are compared to the full present value of future benefits – PVFB/PVB).** This is justified partly by the fact that contribution levels are fixed (as a percent of pay) and hard to change. So an assessment of whether the current level of contribution will pay for the promised benefits is useful. However, a comparison of current assets to a current liability measure will also be useful. Some funds focus on open group projections to assess their status. The open group benefit projection may focus on the stream of income versus the stream of benefit payments (similar to a social security analysis) or payments may be discounted back to the valuation date. Supen is concerned that the assumptions used to introduce new entrants tend to show a better funded status than is the case on a current basis. The open group projections are typically for 100 years. So the liability for payments after the projection period (which is not included in the present value calculation) is small. The projected closed group calculations may also distort the true funded status relative to a current liability.

4.44 **Costa Rican actuarial practice can be understood by making a comparison with four internationally recognized types of actuarial calculations:**

1. **Closed group: Current liability** compared to current market value of assets. Focused on solvency and asking if there enough assets accumulated to pay the benefits currently promised by the plan. This most basic of actuarial calculations is not prepared by pension actuaries in Costa Rica
2. **Closed group: Projected liability** (both service and salary are projected). Focused on whether the current level of contribution can ultimately fund the current level of benefits. This calculation is not typically prepared in other countries but is more relevant in Costa Rica where contribution levels are fixed rather than determined by the actuary.
3. **Open group projections of actuarial liabilities.** Focused on risk, this type of calculation is useful for stress testing either through scenarios or stochastic modeling. This type of calculation is not prepared in Costa Rica
4. **Open group projections of benefit payments and contributions.** This calculation is only relevant for a pay-as-you-go or partially funded social security system with no objective to be fully funded. The present value of the two cash flow streams does not include benefit payments that would be made after the projection period. The Costa Rican social security system (IVM) uses these types of projections but some of the funds rely on them too and are (inappropriately, it seems) using this type of analysis to assess the funded status of the plan

4.45 **From 1 to 4 these valuation approaches are increasingly dependent on assumptions about future demographic and financial developments and therefore are subject to increasing degrees of judgment and/or manipulation.** They may be misunderstood by the boards that oversee them. Because in Costa Rica there is no present value of currently accrued benefits determined by pension actuaries, it is challenging to assess the financial health of funds. Many of the funds show a surplus on the basis of the projected assets and liabilities (valuation type #2) shown in their reports – and the assumptions used are not necessarily robust or conservative.

4.46 **It was recommended that it would be appropriate for SUPEN to strive to make the following changes to actuarial practice (in order of priority and amount of change) for pension funds ignoring IVM):**

1. Eliminate reliance on open group valuations (#4) to determine funded status and assess solvency for the funds (except IVM).
2. Use conservative assumptions, grounded in current market data for closed group projection valuations (#2) to assess the adequacy of required contributions to cover the benefits currently promised.
3. Use current liability, based on current market information, compared to current market value of assets (#1) to assess solvency.
4. Use open group projections (#3) to do stress testing.

4.47 **A key message was that SUPEN would need to direct the pension funds to look at some pessimistic scenarios - as well as sensitivity analysis for the key assumptions.** Some funds do quite good sensitivity analysis, where in others there may not be enough range in the assumptions that are used. It would also be useful for funds to show the marginal effects of changing each variable in turn, e.g. a 100 basis point increase or decrease in discount rates rather than only comparing scenarios with multiple changes. For a number of funds it was not clear what the year-on-year profile was of the income and benefit payments. It would be useful for this annual cash flow data to be presented in the reports as well as the discounted figures.

4.48 **Turning therefore to actuarial reports on pension funds, the key objectives of the actuarial report should be to answer the following questions:**

- Do the assets currently accumulated cover the benefits currently promised?
- Will the current level of contribution be enough to provide for the current level of benefit promised to the current population?
- What significant events and changes have impacted the assets and liabilities since the last valuation report?
- What data, assumptions and plan provisions were used to perform the valuation?

4.49 **At a high level, pension actuarial reports in Costa Rica should therefore include the following:**

- Basic results, broken down by benefit type, participant tier, member status and including sensitivity to key assumptions
  - Present value of benefits (PVB)
  - Actuarial accrued liability or present value of accrued benefits (PVAB)
  - Comparison of PVB to projected assets including future contributions for current population (valuation type #2)
  - Comparison of actuarial accrued liability to current market value of assets (valuation type #1)
- Commentary on results, significant events affecting the liability or valuation process and significant aspects of the valuation such as issues or unresolved questions with data or plan provisions
- Reconciliation of current liability from prior year to valuation date, including gain/loss due to change in assumptions, change in plan provisions, experience different from assumptions, and

less commonly adjustments to data, improvements in actuarial model calculations (e.g. calculating minor benefits more precisely or fixing errors)

- Reconciliation of assets from prior year to valuation date, including gain/loss relative to expected return
- Actuarial opinion on solvency and whether contribution requirements are enough to fund
- Full description of current plan benefits and new plan benefits recommended by actuary – another actuary should be able to replicate calculations from information in the report
- Full description of all assumptions used – another actuary should be able to replicate results based on the description of assumption
- Assessment of prescribed assumptions – e.g. is there reason to believe that the mandatory mortality table is not representative for a particular plan population.
- Description of significant adjustments to member data
- Summary of data and reconciliation of counts in each status from prior year to valuation date
- Calculate impact of significant events beyond plan changes and assumption changes (more than 2% of liability)
- Appropriate signatures taking responsibility for the contents of the report

**4.50 Other best practices that should be considered as actuarial practice evolves and improves could include the following.**

- There should be a requirement to develop a recovery plan when the standard solvency funded status is below a certain level. For example, recovery to 90% funding within 5 years might be required if the funded status drops below 80% and recovery to 70% within 1 year might be required if the funded status drops below 70% on the way to achieving 100% funding;
- Develop benchmark standard interest rate/inflation rate for assessing solvency
- A standard mortality table already exists but this should be kept up to date;
- Justify demographic assumptions every 3-5 years with an experience study;
- Solvency assumptions should be derived from market information instead of forecasting future returns;
- Analyze scenarios that are appropriately pessimistic (these could be defined in regulations; pessimistic scenarios are used to analyze risk rather than current solvency);
- Justify economic assumptions every year as part of valuation:
- An independent actuary should replicate the results of the valuation every 5 years
- To ensure independence the reviewing actuary might be subject to approval by Supen
- Report sensitivity of basic results to alternative assumptions, especially interest and inflation
- Prepare projected actuarial results with an open group (valuation type #3) with stress test type (pessimistic) scenarios to assess risk
- Report demographic trends such as active to retiree ratio for past 5-10 years.

### *Actuarial Model*

4.51 **Supen had already been developing a more sophisticated approach to assessing actuarial and funding risks.** They have helped to push some of the defined benefit funds to have external independent actuarial valuations. These are an important way of ensuring accurate and clear data is provided to the executives and governing board.

4.52 **It was suggested to SUPEN that they engage experts at The University of Costa Rica or the Central Bank to develop a market-based discount rate.** The World Bank team met with two representatives of the actuarial program at the University who appeared to have sophisticated financial modeling expertise which could help in this exercise – although they did not have experience in performing actuarial valuations. It may also be helpful for SUPEN to have a market-based discount rate calculated by outside experts on an ongoing basis. Some sample discount rate concepts were presented to SUPEN and to actuaries and other representatives of the DB funds.

4.53 **An actuarial calculation system has been developed that can provide useful projections of the IVM system cash inflow and outflow.** The system is intended to be developed further, adding further functionality for the social security (IVM) projections and potentially adapting the system to calculate present values in order to analyze the defined benefit funds. During the project the World Bank team worked with SUPEN to provide input on the future development of the calculation system. Supen plan to continue this development beyond the life of the project – illustrating positive commitment to continuous improvement following the FIRST project.

**DB Landscape Report**

4.54 **A key concept for establishing SUPEN’s authority and expertise in the DB area recommended by the World Bank and agreed by the Supen Core Team was for SUPEN to publish an annual report comparing the different funded status, plan provisions, actuarial assumptions, and investment results for the DB pension funds.** This should increase transparency and inform the funds about appropriate assumptions and methods. It is viewed as a potentially having significant influence in encouraging change and improvement in actuarial and investment practice. Examples of similar publications in other countries were provided.

4.55 **By the end of the project SUPEN, working closely with the World Bank team, had drafted the report.** Substantial work was done to collect data back to 2004 to provide historical perspective that can be built on as the report is published in future years. The World Bank team spent time familiarizing the SUPEN leadership and staff with the contents of the report. SUPEN intends to publish the report following discussions of the draft information individually with the funds and to further review the information for accuracy before publication. This will be the first time this material has been created and published in Costa Rica.

4.56 **The content of the report provides an overview of Costa Rican DB pension plans including tables and charts showing current information and historical trends.** Brief text is provided to introduce and explain the numerical information. Most of the outline for sections 1-5 was prepared and included in the draft of the first version.

**Figure 39: Content of the DB Landscape Report**

<p><b>1. Introduction</b></p>	<ul style="list-style-type: none"> <li>• Purpose</li> <li>• Highlights <ul style="list-style-type: none"> <li>○ Developments, events and changes during the year</li> <li>○ Investment and finance highlights</li> <li>○ Summary of funded status development</li> <li>○ Sources of large gains/losses</li> <li>○ Summary of plans in recovery status</li> <li>○ Developments at SUPEN</li> </ul> </li> </ul>
<p><b>2. Funded Status</b></p>	<ul style="list-style-type: none"> <li>• Introduction, commentary, highlights</li> <li>• Summary of assets and liabilities by plan</li> </ul>

	<ul style="list-style-type: none"> <li>○ Breakdown of liabilities by demographic status</li> <li>○ History of percentage of liability by demographic status</li> <li>● Funded status by plan <ul style="list-style-type: none"> <li>○ Current liability vs. market value of assets (not currently available)</li> <li>○ Projected liability vs. projected assets (closed group)</li> </ul> </li> <li>● Funded status history by plan (as many years as practical)</li> <li>● Funded status change during year and attribution to investment returns, contributions, benefit payments, new benefit accruals, interest on liability, gains &amp; losses</li> <li>● Historical view of contributions</li> </ul>
<b>3. Investment and finance overview</b>	<ul style="list-style-type: none"> <li>● Introduction, commentary, highlights</li> <li>● Market yields and yield curves <ul style="list-style-type: none"> <li>○ CR nominal</li> <li>○ CR inflation indexed</li> <li>○ USD nominal</li> </ul> </li> <li>● Change in market yields during year</li> <li>● Investment returns <ul style="list-style-type: none"> <li>○ Breakdown by yield, price change</li> </ul> </li> <li>● Compare historical investment returns to assumed returns</li> <li>● Compare historical pension returns to historical market returns</li> <li>● Asset allocation in aggregate (include breakdown of bonds by the 3 types and by maturity bucket; e.g. 0-5, 5-10, 10+)</li> <li>● Asset allocation by plan</li> </ul>
<b>4. Financial Assumptions</b>	<ul style="list-style-type: none"> <li>● Introduction, commentary, highlights</li> <li>● Changes to assumptions</li> <li>● Future return assumptions <ul style="list-style-type: none"> <li>○ Compare future return assumption to current market yields</li> <li>○ Compare historical return assumptions to historical yields</li> </ul> </li> <li>● Inflation assumptions <ul style="list-style-type: none"> <li>○ Compare inflation assumption to inflation implied by yield curves</li> <li>○ Compare inflation assumption to recent history</li> </ul> </li> <li>● Salary increase assumptions <ul style="list-style-type: none"> <li>○ Compare salary increase assumptions to recent history</li> <li>○ Compare salary increase assumption to inflation assumption, actual inflation</li> </ul> </li> <li>● Historical pension investment returns compared to historical market returns, market yields (CR bonds, CR equities, LA equities, global equities, other)</li> </ul>
<b>5. Demographic Data and Assumptions</b>	<ul style="list-style-type: none"> <li>● Introduction, commentary, highlights</li> <li>● Changes to assumptions</li> <li>● Counts by demographic status, gender</li> <li>● Average age, service, benefit amount (retirees)</li> <li>● Trends in ratios like retirees/actives, benefit payments/liabilities</li> <li>● Comparison of actual mortality experience to assumed mortality</li> <li>● Open group population projection assumptions (salary increase, inflation, population changes)</li> <li>● Historical comparison of open group population assumptions to actual plan population changes</li> </ul>
<b>Glossary of Terms</b>	

### *SUPEN supervisory processes on actuarial issues*

4.57 **The project team considered the analyses Supen should undertake to assess the quality of actuarial work through a review of pension fund actuarial reports.** It was agreed that the tests should include the following:

- Is the report complete with regard to the information described in regulations (see below)?
- Are the methods appropriate as described in regulations?
- Are prescribed solvency assumptions used as required by regulation?
- Are the other (non-prescribed) valuation assumptions reasonable, reflecting best estimates of future experience, potentially with a margin for adverse deviation?
- Do economic assumptions have an appropriate relationship to current market data?
- Have demographic assumptions been justified in the past 3-5 years with an experience study?
- Are the assumptions used to project assets and the plan population for open group stress testing calculations reasonable?
- Do statistics such as counts, average age and average service for the projected population appear reasonable
- Are stress test scenarios appropriately conservative/pessimistic?

4.58 **In addition to evaluating information in the actuarial report, the actuarial review process for on-site inspection of a fund might include the following:**

- Are all indications that the actuarial work is correct? [Some of this work may be done offsite either before or after an onsite visit]
- Audit a sample of data for small sample of members (5-10) and compare to data source (e.g. payroll system)
- Check that updates to computer programs to effect changes in plan provisions, assumptions and actuarial methods been reviewed and signed off on
- Evaluate test lives (detailed calculation for small sample of members, 2-3 or 1 for each different benefit tier) to check the following: is member data read into program correctly? Are benefits calculated correctly? Are present values calculated correctly?
- Get information on data adjustments to source data
- Create interview guide for actuaries with questions like the following
  - Tell me about the assumptions that are used and whether you have any concerns about them
  - Tell me about any problems with the data
  - Tell me about any provisions of the plan that are unclear to you or may be only approximated in the valuation.
  - Tell me about any significant issues or events that impacted the results
  - Ask about significant liability gain/loss items
- Review actuarial work-papers, with attention to the following:
  - Sign off on final data used
  - Sign off on changes to assumptions
  - Sign off on changes to programming (plan provisions and assumptions)
  - Organization of files and transparency of the work process created by the files

## Chapter Five: Revisions of legislation and regulation

**5.1 The conceptual framework aims to develop pension fund management entities that are responsive to supervisory persuasion where failures are found in their governance, risk management or control. But this cannot always be relied upon.** Hence, the approach to securing effective risk mitigation is based on:

- **Education:** ensuring that the boards and management of supervised entities understand the risks and how they can best be mitigated.
- **Orientation:** using one-to-one contact with pension fund management, during inspections and at other times, to persuade them to make the changes needed to mitigate risks effectively. This can be under-pinned with specific oral and written recommendations.
- **Enforcement:** using powers in legislation to compel entities to make changes, penalize them for serious failings and intervening where management cannot be trusted to manage risk.

**5.2 Enforcement therefore provides a necessary response where there is serious non-co-operation or non-compliance.** The threat of enforcement also strengthens Supen's ability to change behavior. This means that pension legislation should include penalties and intervention where there is a significant breach of the principles agreed. To facilitate enforcement action regulatory or evidentiary force should extend to the guides that support the principles. Achieving this in Costa Rica requires some regulatory change.

**5.3 As highlighted already the core of any new regulations or advice on changing existing regulations and legislation comes from the new principles and guides.** The approach is designed to be consistent and joined up. This is to enhance the logical flow of the approach and make it as simple as possible to be a regulated entity – and a supervisor of those entities.

**5.4 It was therefore agreed that regulations are just one element in the way Supen expectations are communicated to supervised entities.** As an example, the approach being considered for operational risk would result in a framework where:

- **Primary law** specifies that risks should be properly managed in the best interests of affiliates. It also includes some specific and enforceable 'must-haves' – e.g. independent custodian, daily reconciliation etc
- **Principles in regulation** should specify what Supen means by effective risk management of risk (Including governance)
- **Good practice guidance** explains how these principles can be met, and what Supen will be looking for in its assessment (Supen expectation against which compliance monitored). This guidance should be developed in close consultation with the industry with the aim of securing broad agreement. It would be issued by Supen, as a guidance note (acuerdo).

**5.5 Securing broad industry agreement to what is proposed is important to achieving agreement to individual inspection findings.** This is in turn important because of the difficulties with legal enforcement in Costa Rica. This is not so much because Costa Rica has a system of civil rather than common law, as those two systems could be seen as converging in many jurisdictions – and this issue was reviewed with a legal expert qualified in both systems. At an early stage in the project the project team (World Bank and Supen) reviewed for relevance and completeness the legislation applying to pension funds. Guidance was provided on effective consultation processes. As a

consequence, an informal consultation stage was added to the process for preparing the risk management regulation which is covered further below.

**5.6 The High Level Design Report provides guidance on desirable changes to the regulatory regime for OPC own capital and the scope for reducing excessive regulation, including reducing the frequency of reporting to Supen by pension funds.** The Report also gave initial input on the priorities for regulatory change. These were refined during the life of the project so that by the end of 2014 they had become as follows:

***Phase 1 Changes to Regulation – Year 1***

- Risk management
- Financial risk calibration
- OPC risk capital – later merged with the risk calibration regulation

***Phase 2 Changes to Regulation – Year 2***

- Investments
- Actuarial
- Market discipline
- Corporate governance – incorporated within a Conassif regulation, based on the principles and best practices prepared by Supen.

***Phase 3 Changes to Regulation – Year 3***

- Revisions to Law 7523 (to improve enforceability)
- Product authorisation

***Phase 4 Changes to Regulation – Year 3/4***

- Portability law

**5.7 During the project input was provided to the drafting of all the high priority items, which are covered in the sections that follow.** Progress has already been made with the regulatory change agenda with some changes made at the end of 2014. Investment limits over issuance have been removed, in view of the negative effects of these limits noted during the diagnosis phase. Changes were also made to the requirements on entities for completing the operational risk questionnaire, and the requirement for twice-yearly requirement for risk calibration inspections was reduced to annual.

## Risk regulations

**5.8 The first phase of regulatory change is designed to provide regulatory support for the principles and guides, and to reflect the changes to the supervisory model explained in earlier sections of this document.** In particular:

- The regulation on risk management which establishes the basic framework for risk management including the risk committee is being updated. The World Bank provided comments on the original draft. Its scope will include the principles of good governance and risk management referred to in this report and developed by the project. The Guides of principles and best practices prepared alongside them will be published as acuerdos (supervisory guidance note). The project also provided revised wording for the risk descriptions included within the regulation.
- The regulation on the calibration of the financial situation needs adjustment to be consistent with the more comprehensive analysis of risk being adopted. This includes new risk categories, and the

revised approach to assessing and calibrating risk based on the guides of principles and best practices explained above. Hence, the previous calibration approach with a limited number of risks is integrated into a more comprehensive approach. The regulation will also integrate the method of assessment of OPC minimum capital requirements with Supen's assessment of governance and the risks relevant to OPCs, see above. Wording was provided that could be incorporated into the new regulation.

**5.9 It was concluded during the project that the risk calibration regulation was an urgent candidate for revision.** It required Supen providing an assessment every six months of the extent of 'financial' risk under eight categories. As currently specified they combine risks to the assets of a pension fund, which are intrinsic to the classes of asset held, and an incomplete list of the risks arising from the management of that fund.

**5.10 It appears likely that the original intention of the risk calibration regulation was to provide a rating of risk to help affiliates choose a portfolio, as is often the case for retail investment funds.** As the affiliates in Costa Rican pension funds in practice currently do not make an active informed choice of portfolio, this adds little value. This may change when multi-funds are introduced in the DC system in the future.

**5.11 The possibility of introducing multi-funds has been debated.** In theory a single portfolio will struggle to meet the needs of younger affiliates. They could benefit from the better long-term real returns commonly found in less liquid and more volatile asset classes. Retired affiliates need more liquidity and stability. The argument against is that investments in Costa Rica are so skewed to government bonds that the amount of differences between portfolios that could be realized would not justify the costs of administering multiple portfolios. Furthermore, it is quite possible that the more aggressive portfolios would under-perform the less volatile portfolios, given that government bonds provide some of the best returns available, which could be presentationally difficult. And there are relatively few affiliates old enough to benefit from a less volatile portfolio.

**5.12 Once the number of retirees becomes significant and foreign investment becomes established, there would be a strong case for implementing a less volatile fund for affiliates aged over 55.** This could be offered as a choice for younger more cautious affiliates (but not as the default due to the expected lower returns in the longer term). The proposed amendments to the investment regulation should enable such a development.

**5.13 It appears to be most appropriate for risk calibration to focus instead on assessment of the risks to affiliates from the way a fund is managed, which is an essential element in RBS.** Sharing the rating could act as a powerful means of influencing behavior, so long as it is defensible – hence the effort put into risk assessment methodology documented in the previous section of this report. Three main changes were needed to make the regulation fit for this purpose:

- Re-defining the risk categories to align with those needed to assess the full range of risks that a supervised entity needs to manage, whilst retaining as much of the language as possible from the original to maintain continuity;
- Removing the requirement for each risk to be assessed at every pension fund twice a year, which seriously constrains Supen's ability to vary supervisory intensity according to the level of risk; and
- Modifying the assessment process to take account of impact as well as probability.

## Actuarial regulation

**5.14 Actuarial and investment regulatory changes were proposed in the second phase of legislative changes – to reflect the need for longer consultation and transition for the DB industry given the relatively low starting point relative to international best practice.** Market discipline was also in phase 2 because it was a lower priority and to help the transition. The planned changes were to:

- **Actuarial regulation** – to clarify requirements for the calculation and reporting of the solvency of DB pension funds.
- **Investment regulation** – to further revise limits, notably on issuance, which constrain investment, and add requirements for good investment practice. The draft regulation would follow the structure of the investment principles discussed above and the related guide. Its priority has been reduced by the removal of the most harmful limits and the imminent issuing of the Guide on the principles and best practices in investment. The intention to use the regulation to facilitate the introduction of multi-funds is also less urgent because of the slower timetable for this change, see above.
- **Market discipline** – to codify requirements relating to integrity in the presentation of information and other market practices. Preparation of this regulation has been delayed as a knock-on from other delays. This regulation is in any case considered to be a relatively low priority but as with the others it would follow the structure of the linked principle and guide.

**5.15 In the case of the actuarial regulation, the regulation would cover:**

- Which reports must be prepared by supervised entities for Supen, and when;
- The methodology and assumptions to be used for solvency calculations
- The contents to be included in actuarial reports;
- The responsibility of the entity board for the reports;
- The qualifications required of the actuary who signs off these reports, and the form of his/her certification;
- The actions that Supen can take in the event that these requirements are not met; and possibly
- The requirements for the entities to submit to Supen recovery plans for clearing any significant deficits disclosed in these reports, and prohibitions on granting benefit enhancements where the deficit exceeds a specified percentage.

**5.16 The regulatory approach for solvency included a recovery plan regime to have an explicit plan to restore adequate funding.** This would include limits on a fund's ability to enhance benefits so long as the deficit is greater than a specified threshold. Attention was paid to the accurate communication of the pensions promise where annual cost of living adjustments are not mandatory or where the level of deficit casts doubt on the payment of promised benefits to younger workers.

## Improving the enforceability of regulation

**5.17 A final phase of regulatory change is intended to amend the underlying pension fund laws (7523 and 7983).** This will partly facilitate the enforcement of certain requirements under the new framework, as well as making changes for the framework for transfers between pension funds to better enable pension portability.

**5.18 Supen's Legal Division has assembled a list of changes of primary legislation that would enable key expectations of Supen of pension fund management and behavior to be subject to sanctions in the event of non-compliance.** There is a question mark as to the effectiveness of such changes given the peculiarities of the Costa Rican legal system. In particular, the actions of any Government agency,

Supen included, can be stayed by the courts pending an appeal by the entity being acted against. This contrasts with the situation in most other jurisdictions where the supervisor's actions apply until any appeal is successful. While this weakens Supen's powers to act, changes to the law should still send a clear signal to the industry as to what is considered to be unacceptable. But, there are risks in amending primary legislation, as unintended legislative changes might result.

**5.19**        **Supen's Legal Division reviewed the situation and the most effective response was agreed to be joining forces with the other financial services regulators who face similar problems.** This could help to have this issue placed high up Conassif's agenda and influence government decision-makers. Given the risks involved in amending primary legislation there is likely to be a long process to bring the changes to fruition. Hence many other elements of the project were focussed on how to achieve the best results for members given constraints in the legal process that would not be solved by the project alone.

## Chapter Six: Capacity building and engagement

**6.1 A major focus within the project was on improving the capacity of Supen and the entities it supervises, as well as explaining the revised approach being developed.** During each technical assistance visit presentations were delivered and feedback received in the following ways, which are covered in more detail below:

- Presentations to and training of Supen managers and staff;
- Presentations to the OPCs;
- Presentations to the defined benefit fund directors, managers or actuaries; and
- Presentations to members of Conassif, including the Governor of the Central Bank.

**The Superintendente at the start of the project, Sr Edgar Robles, and his deputy Mauricio Avila were briefed during every technical assistance visit.** One or other of them gave supportive presentations at each of the significant capacity building and engagement events. During the last technical assistance visit the project team met with Sr Alvaro Ramos who took over from Sr. Robles on 19 June 2015 to present the concepts and benefits of risk-based supervision and praise the participation and ownership shown by the Supen team. The team have remained in contact with Sr Ramos to assist in the implementation – particularly in the context of a review by the Toronto Centre of the methodologies for Risk Based Supervision across banking, insurance and pensions. There may be some changes in the future to harmonize certain aspects of the methodologies – building for example on the common governance regulation. But the main structure and approach of the methodology and associated legal, regulatory, training and communication set out here is intended to remain.

### Capacity building within Supen

**6.2 Becoming risk-based is as much an attitude of mind as a collection of tools and techniques.** The approach taken during the project was to develop the capacity of Supen to take RBS forward in a sustainable manner by involving Supen managers and staff as appropriate. Hence, the whole project can be seen as capacity building. Some of the workshops included a particularly strong training element, for instance, sessions on governance, investment and actuarial issues. Pre-panned exercises were undertaken by Supen staff to help develop their understanding. The governance sessions included the brainstorming of governance principles and identification of what strong and weak looks like against such principles.

**6.3 The presentations and training on actuarial, investment and governance issues were particularly extensive<sup>48</sup>.** Some of the issues covered in the actuarial sessions are summarized in the actuarial section earlier in this report. During the last technical assistance visit all Supen staff involved in the Guides working groups populated the risk assessment forms under close supervision from the project team. More formal training took the form of four presentations to staff and four training courses, outlined below.

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<sup>48</sup>Any engagement to deliver outcomes and risk based supervision as set out in this case study would ordinarily include similarly extensive training – but the content and focus would depend on the specific country and institutional circumstances. As set out in the section on the Outcomes Based Diagnosis and Assessment, after the initial diagnosis phase and risk assessment there is a detailed follow up in the priority areas identified using a range of tools.

## Presentations to staff

6.4 **At the start of the first technical assistance visit the project team presented to the Core Team basic concepts in risk-based supervision and explored with them their potential applicability in Costa Rica.**

6.5 **The next phase of presentation to Supen staff covered the emerging conclusions from the high level design and risk strategy development and emerging principles of good practice.** In the questions that followed the main concern was about the difficulty of developing and implementing the new processes while the old processes have to continue. In response, there was a commitment to continue seeking out old activities that could legally be stopped now without Conassif authority.

6.6 **The presentation to Supen staff during the third visit was given by the Supen core team – emphasizing the client-led approach that is important to effective implementation.** The presentation focused on the development of risk strategies and the prioritization of developments to mitigate risk and increase the focus on risk. It also explained the principles developed for corporate governance and investment risk. A lively question and answer session followed, during which it was made clear that the changes should not increase overall burdens on pension funds, and should result in more purposeful work for Supen staff. Presentations during the following visit continued the explanations of the developing approach – in the context of the overall conceptual framework.

6.7 **The project team’s final presentation to all Supen staff emphasized the basics of risk-based supervision that should be maintained even though details might change.** In particular the importance of the integrated risk model was stressed, along with the need for appropriate strategies to reduce risk. In this context, the DB Pension Finance Report was introduced. The benefits of risk-based supervision were summarized and the next steps towards implementation outlined.

## Training courses

### *Interview training*

6.8 **As interviewing Board directors and other key personnel is fundamental to the on-site process, it is important that Supen build their confidence in these skills.** Hence, a training simulation was undertaken with on-site supervision staff that occupied much of one day. The format was as follows:

- The 22 staff present were divided into groups, except for two Supen managers who were recruited as interviewees (with advance notice). They and a World Bank team member role-played the interviewees, according to the guide provided to them.
- Each group was allocated two governance principles to assess, with suggestions as to other risk principles that might be relevant to the questioning.
- They were then provided with a case study to read. From this they were asked to prepare questions. To help them they were given pro forma questionnaire, assembled from the current governance principles and guides (which will be subject to revision).
- One member of each group was brought together to form a four-person interviewing team. After a short pre-meeting they interviewed the Chairman and Chief Executive of a fictional pension fund, for about 45 minutes.
- The groups then re-formed to consider briefly what they had learnt from the interviews, and the interview process. This was followed by a plenary where initial conclusions were shared.

- The groups were then asked to prepare questions for the second interview, with the chairmen of the investment and risk committees of the pension fund, taking account of what they had learnt – this took them around 20 minutes.
- Another interview team was assembled, with a different member from each group. They spent longer preparing, which was evident from the orderliness of their approach.
- The team interviewed the chairmen of the investment and risk committees of the pension fund for about 45 minutes.
- The groups re-assembled to enhance their conclusions on the basis of the second interview.
- The groups then reported back to a plenary after which the interviewees, and others, gave their feedback on the process.

6.9 **It was agreed that the simulation was quite realistic in that the issues of competence, dominant individuals and conflicted interests are found at supervised entities.** To help the assessment process the interviewees were sometimes more forthcoming in their answers than would be the case in reality. Furthermore, perhaps unrealistically, they were told not to lie, but to avoid telling the whole truth unless pressed. The role of the interview team leader proved its importance, with the greater time spent preparing resulting in more penetrating and efficient questioning. Some questions were too general, receiving suitably bland (and misleading answers). The questioning was often effective, however, where interviewers probed deeply and followed up answer. Occasionally it took time for the team to follow up interesting points in the answers but the ability of team members to do so was demonstrated, showing good team-work.

6.10 **It was agreed that more training of this nature would be beneficial.** Furthermore, more attention needs to be given to the preparation of questions and making of assessments in a structured way. This follow-up was scheduled for inclusion within the final training course.

### *Investment training*

6.11 **A training course was given in the latest thinking and techniques relating to the effective management of pension fund investments. This was delivered by staff from the World Bank Treasury Department.** 22 staff from Supen attended. The training gave them new concepts in investments and their relation with the pension funds, under the following headings:

- Asset classes
- Capital Markets and Modern Portfolio Theory
- Fundamentals of Pension Management
- Strategic Asset Management
- Historical and Forward Analysis
- Portfolio Construction using External Managers
- Operational Aspects of Investment Management
- Credit Risk
- Risk Measures

6.12 **In addition, they obtained answers about some questions regarding the drafting of the Guide of principles and best practices on investment risk, most notably in relation to statements of investments policy.** As well as improving the quality of the Guide, the training was much referred to in the preparation of the inspection planning and assessment form for inspection. The concepts fed into the

work on the principles and guides and hence will flow into the revised investment regulation. Feedback was very positive on the quality of the training and its usefulness now and in the future.

### *Initial supervision capacity building course*

6.13 **A basic training course on risk-based supervision was delivered. This was aimed at the staff who have had little involvement thus far in developing the revised methodology.** Some more experienced staff also attended. There were 22 in total. The concepts of risks and risk-based supervision were presented along with some key elements of the conceptual framework and some detail about enhanced inspection processes. The strategy process was largely omitted as this was covered in the staff presentation during the previous visit. Several interactive exercises were undertaken resulting in good participation and engagement. There were some rich discussions about the nature of the risks Supen faces and mitigations. The group was less adept at identifying which risks can be best used to test governance in different situations. This pointed to a subject that needs more coverage during the final training event.

6.14 **Some of the staff in particular expressed concern about the additional work involved in on-site inspection, in which context it was explained that the number of visits would fall from around 40 a year to 12-14.** This means that if each of the DB and DC departments is split into two teams each team has nearly four months for each inspection: one month planning, one on site, one month documenting and one agreeing the inspection report and action plan.

6.15 **The training session was helpful to crystallize thinking about the final training course to be delivered during the final visit.** This should walk through key elements in the planning, execution, documentation and response to an on-site inspection. It should also raise familiarity with the guides of principles and best practices. In discussion with the core team it was agreed that the training would be made more directly applicable to the work of Supen by using actual supervised entities as examples and hence splitting some of the course between DB and DC.

### *Final capacity building course*

6.16 **This three-day course was delivered to all 40 of Supen's supervision staff. Plenary presentations were interspersed with group-work in groups of five staff, with feedback to the plenary following.** The course objectives were to enable everyone to be aware of precisely what would be involved in implementing risk-based supervision, now that design work was complete. It also served as a dry run for some key elements in the methodology. Some of the sessions were split between DB and DC to ensure the issues for each sector were given sufficient attention. The headings for the course were:

- **Introduction** - the conceptual framework
- **The Principles and Guides on best practices** – presented by the working groups that prepared them to provide a basic understanding of these key building blocks in the methodology
- **Linkages between the principles** – a practical exercise to establish the connections between the governance principles and other principles necessary to ask effective interview questions.
- **Deciding which risks to examine during an inspection** – another practical exercise based on two actual pension funds, so that staff could use information about the funds to assess their risk profile and hence the priority risks for attention.
- **Building an inspection programme** – populating the inspection planning and assessment forms for governance – with tests and questions.
- **Case studies** in groups and based on the same two entities, but with some additional information.
  - **Planning interviews** – developing questions from the available information
  - **Interview role plays** – each group undertook one 50 minute interview and observed another

- **Assessment** – each group prepared a formal assessment based on the interview (and other) evidence, using the inspection assessment form.
- **Feedback** - from the project team and interview role-players to help participants learn from the experience
- **Parallel presentations on DB and DC specific issues** – issues relating to actuarial valuation for DB, and life-cycle investment, commissions, mis-selling and other costs, OPC viability and correct accounting for DC.
- **Risk assessment and reporting** – the assessment methodology and group-work determining a supervisory stance on the basis of evidence of failings provided as mini-case studies.
- Final words, observations and questions

## Engagement with representatives of the supervised entities

6.17 **Meetings were arranged in all visits with representatives of the DC operators and DB pension funds.** They had a strong focus on governance and risk management because improved governance is one of the key aims of the RBS strategy. In the final visit a draft regulation on risk management was out for consultation. The meetings were well attended and gave rise to lively discussion. There was not much interest in the detail of risk management. Instead, representatives probed the concept of ‘expert judgment’ as it has been applied by Supen during inspections for risk rating. There was a sense that there was insufficient guidance on what was expected during inspections. It was clarified that:

- The intention is to move to a single inspection regime with any remaining testing of legal compliance being combined with risk inspections.
- While Supen must have the last word on the principles it expects entities to follow, there should be scope to discuss the supporting guidance with them.
- The guides currently used for risk rating will be revised through a consultative process to provide more detail.
- No guide can hope to cover all eventualities, and supervisory (and indeed entity) judgment will continue to be needed as to whether an entity complies with what is expected of it, as set out in a series of high level principles.
- Because guidance notes do not have the status of law it should be possible to apply them to those funds that have their own regulatory framework, so long as agreement can be reached on the content.
- Robust processes to ensure consistency of judgment are under development.

6.18 **The representatives of the DB pension funds were also concerned that the supervisory regime took insufficient account of the differences between entities.** This led to a positive discussion of the governance arrangement in the DB pension funds and in particular the expertise and commitment of board members. Some funds already provide training for board members but recognize that given their background many of them will never become experts. The concept of two-tier boards was discussed and it was agreed that it may be applicable to some of the entities. It was agreed that there should be scope for Supen to work with the entities on raising the level of knowledge and understanding.

6.19 **At previous meetings with representatives of the DC Operators and managers of the DB pension funds the project team gave presentations on the emerging conclusions from the strategy development and emerging principles of good practice relevant to the funds concerned.** There were plenty of questions at both sessions. There continued to be a view that Supen should listen more to them,

but the detailed methodology of how pension fund managers would be assessed received more attention. The entity representatives focused in particular on the detail of governance requirements, and hence on the principles for governance, and to a lesser extent, investment. The principle-based approach makes sense to the entities. Several answers had to explain how matters of concern fell within the governance principles, which indicates that the short titles of the principles were not all sufficiently meaningful. Assurances also had to be given that the guidance would reflect differences between the different pension regimes and be enforced on a 'comply or explain' basis rather than mandating that every element had to be followed even if a fund had a better alternative procedure.

**6.20 In general the consultation events were for the management boards but the chairs of the supervisory boards of the operators also came to some sessions.** Most of the chairs were then relatively new, and hence the project team presentation started with a summary of risk-based supervision and in particular the strategic process. The rest of the presentation focused on governance, drawing on the principles and guide. There were a number of perceptive questions, mainly from the chief executives who have already attended several presentations on the project. Their major concern was the effort involved in training board members who may change after just four years. They were also concerned about the transitional period that will be provided for board members to gain competence.

**6.21 The consultation/feedback sessions with the pension fund actuaries and other representatives of the defined benefit pension funds revealed a wider range of views – reflecting the greater diversity of the DB sector.** There was some acknowledgement and recognition by the group that Costa Rican practice might be out of sync with practice in other countries where the pension actuarial practice was more established. While there are some valid reasons for some of the differences for others there was not. There is likely to be resistance to changing practice driven by the concern that better actuarial information will shine a light on situations that require tough decisions about benefit levels and funding needs.

**6.22 A consultation/feedback session was held with representatives of the DB funds for the purpose of familiarizing them with potential changes to DB regulations and actuarial methods.** Much of the content was similar to the content covered in a meeting with a similar audience in a previous visit - best practices for pension actuarial methods, assumption setting and reporting. Some of these best practices from other countries are different from standard practice in Costa Rica. Discussion arose and questions were raised both during and after the session. The training/feedback with the OPCs held in the same week considered the guides of principles and best practices. There were a few specific questions but much of the feedback related to consultation and transition issues, indicating, hopefully, broad acceptance of the principles.

**6.23 Meetings were held during the final visit with the OPCs and DB funds.** The presentation to the OPCs summarized why the project had been needed, what it had delivered and the benefits to be expected, not least for the OPCs. The relevance and importance of the Guides on principles and best practices in governance and risk management were emphasized. The next steps were then presented along with the important role for OPCs in ensuring they were effectively implemented. There were no questions but the head of the representative body for OPCs (ATOC) praised the contribution made by the project.

**6.24 The project team's meeting with the actuaries and other financially-oriented representatives of the DB funds introduced solvency calculation concepts.** In particular they were talked through a calculation of the liability using benefits earned to date and market interest rates based on a

yield curve. Basic application of yield curve and the adaptation used in Europe that employs an “ultimate forward rate” were presented. In addition, a simplified approach using a single rate on the yield curve (e.g. the 15-year real rate) was presented as way that might simplify transition to a market-based discount rate. It may be a challenge for some of the funds to develop a full yield curve approach. This group was also shown some excerpts from the DB Landscape Report that was prepared during the project. There was some concern from a few funds about the report which would show the funded status and assumptions used by all the plans. It was explained that SUPEN planned to meet individually with the funds to vet the data and discuss any concerns.

6.25 **The project team also met with four representatives, including three actuaries, from the largest defined benefit fund which covers teachers and was created in 1992.**<sup>49</sup> At this meeting the team presented some of the likely changes in actuarial practice that SUPEN would be adding to regulations, including solvency calculations using market interest rates and an analysis of liability gains and losses in the actuarial report. The actuaries from the teachers’ fund were familiar with these concepts and did not expect that they would need major modifications to their systems to implement them.

6.26 **Finally, the project team met with two professors from the math/actuarial science department at the University of Costa Rica.** The University intends to create and research and consulting group to help Costa Rican organizations with financial and actuarial projects. The team discussed with SUPEN the potential for using resources from the University or the Central Bank to help develop a market discount rate approach.

### Engagement with Conassif and the President of the Central Bank

*This section has been significantly shortened as a published report cannot include so much detail of the discussions between Conassif and the President of the Central Bank. The key point to make is that the discussions were held and repeatedly to help build the case for change.*

6.27 **A central part of delivering outcomes and risk based supervision is to take a wider view on how to achieve long run outcomes – and have a dynamic approach that recognizes that the best solutions to risks will include changes in legislation and regulation.** This means that it is important to engage with those that hold the power to grant new regulations as well as the most important stakeholders. Conassif is an umbrella body covering all financial market regulators in Costa Rica that is responsible for issuing regulations. So each of the individual supervisors present their plans to Conassif, who must ultimately decide if they will pass new regulation. The Central Bank President is obviously a critical figure in any country – but particularly in Costa Rica – not only for his formal position but also for his long experience and ability to provide advice and guidance.

6.28 **The project team had a number of meetings with Conassif – whose membership changed significantly mid-project following a Presidential election.** The presentations from both the World Bank and SUPEN covered a range of issues. Some summarized the risk-based approach being adopted and explained the way in which it was being developed to reflect the country specific context in Costa Rica. One presentation demonstrated that although there are some similarities between pensions and the other markets, the major differences mean that there need to be some major differences in supervisory approach to reflect the different risks. Other presentations set out the overall model - reflecting a desire from Conassif to see the whole approach before agreeing to remove some of the requirements for detailed inspections that were adding little value. Due to the change in membership of

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<sup>49</sup>Another fund covering teachers prior to 1992 was separated and is covered from general revenue in the national budget.

Conassif the project team presented some of the core concepts a number of times. The team also presented the core principles behind the proposed changes in regulation that would help to strengthen supervision in Costa Rica.

6.29 **A number of meetings were held with the President of the Central Bank – individually and with the President of Conassif.** The issues raised provided valuable context and challenge to ensure a model was developed that was tailored to the Costa Rican context. Issues noted included:

- Ensuring that the move to RBS would not impose additional costs on the pensions industry
- Ensuring that the use of 'expert criteria' to justify decisions taken by Supen was based on a clear methodology and highly skilled staff
- Ensuring that the project was not imposing an RBS model designed internationally for large developed countries but was tailored to the specific circumstances of Costa Rica<sup>50</sup>.

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<sup>50</sup> Interestingly the approach in the Banking and Insurance sectors was to proactively seek to incorporate the Canadian model of RBS – reflecting appropriate differences that can exist between different financial supervisors as to the approach that will best improve outcomes for them in their current context.

## Chapter Seven: The outputs and benefits from the project

7.1 **This report has set out an approach using an Outcomes Based Diagnosis and Assessment for Pensions (OBA) as the foundation for a new Outcomes and Risk Based Supervision (ORBS) model – using a case study of a project in Costa Rica.** The OBA methodology starts with the long-run outcomes from a pension system and evaluates a detailed set of ‘key features’ that drive these outcomes. It seeks to identify the most important areas for improvement in the private pension system that can help improve pension outcomes overall. The OBA diagnosis was followed by the development of a risk based supervision (RBS) model that takes as its starting point the long run outcomes identified in the first phase. It then works through a rigorous set of deliverables to deliver a supervision model that integrates organizational strategy and design, along with new capacity, training and techniques to align the activities of a supervisor to the long run outcomes. The link between the outcomes and the techniques of risk based regulation and supervision combine to produce the ORBS model.

7.2 **The project was supported by the FIRST initiative<sup>51</sup>. It delivered the planned outputs for the FIRST engagement as set below. These were delivered during and between its seven technical assistance visits.** Because they were developed in close partnership between the project team and relevant Supen staff are owned by the organization and should prove to be sustainable. This list below gives the key outputs – but overall there were 100 specific deliverables comprising over 2,000 pages and slides of input:

- A thorough **diagnosis** of the how well the pensions system in Costa Rica against the outcomes intended from the system with recommendations for supervisory and regulatory changes and in particular how Supen should develop to be more risk-based and effective.
- A **high level design report** setting out in more detail the actions that Supen needs to take to become more risk-based and effective.
- Clear **objectives and design principles** for risk-based supervision
- A **system risk analysis** identifying (originally) 22 risks for which mitigation strategies were needed.
- The 22 **risk strategies** consequent upon the system risk analysis.
- A **methodology and forms for strategic planning** within Supen that is centered on the analysis in risk strategies and an annual review of performance against them, enabling resources to be deployed where they can most add value.
- **Strategic prioritization** for the next three year that has prioritized the implementation of options identified as being desirable to enable risks to pension system objectives to be mitigated, along with the different supervisory and regulatory actions involved.
- The establishment of **two Committees** for overseeing the risk-based approach at strategic and day-today levels, along with a **Strategy and Risk Unit** to service them and oversee the strategic planning approach.
- The agreement to other **organizational changes** that result in a specialist investment division and elimination of the unhelpful split between on-site and off-site supervision.
- The development of a **strategy for effecting change** through better governance and risk management and pension fund management entities, centered on the Principles and Guides and an integrated supervision approach designed to check for non-compliance.
- **Six Principles and Guides** advanced to a stage where they are being used to develop the detailed supervisory approach, albeit that more refinement will be desirable over time.
- Advice on improvements that should be made to **Supen’s consultation approach**.

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<sup>51</sup> Financial Reform and Strengthening Trust (FIRST) a multi-donor trust fund administered by the World Bank.

- **Detailed processes for on-site and off-site supervision**, equivalent to revisions to a procedures manual if such a document were used, and which can be incorporated into Supen quality assurance documentation.
- **A schedule of off-site tests**, plus input to the development of more sophisticated off-site analyses of investment.
- Completed pro forma's for the **inspection planning and assessment forms**, based on the best practices along with agreement on the on-site interview questions and testing, off-site testing, that will be needed to implement risk-based supervision.
- **A methodology for entity risk assessment**, including an approach to rating OPCs for the purpose of assessing additional capital requirements, deciding on supervisory response and providing input to subsequent annual planning.
- **A revised approach to Supen testing and assessment of the quality of actuarial valuation and funding decisions at DB pension funds.**
- Input to the development of an **actuarial model** that forms part of this supervisory approach.
- A final draft **DB Pension Landscape Report** presenting comparative information about the DB pension funds in Costa Rica, intended as a tool to change their behavior.
- An **agreed approach regulatory reform** designed to reduce unnecessary detail, reporting to Supen and investment limits, and provide for integrated risk-based supervision and the enforcement of essential requirements at pension fund management entities
- Input to the revised **regulation on risk management.**
- Proposals for the content of the **regulation on risk calibration.**
- Comments on and re-drafting of the revised **regulation on solvency.**
- Advice on **investment regulation, in particular quantitative limits and possible establishment of multi-funds.**
- Contributions to Conassif's proposed **regulation on governance at financial services institutions.**
- **Presentations to Supen managers and staff** to ensure that they fully understand the proposed changes.
- **Four training courses**, with supporting materials, designed to develop the skills needed to implement risk-based supervision in practice.
- Small group **training on actuarial best practices** so as to raise actuarial capacity within Supen.
- **Presentations, consultation and feedback sessions with representatives of DC and DB pension fund management entities** during each of the seven technical assistance visit designed to engage them with the project and reinforce understanding of what they need to do to improve governance and risk management.
- **Presentations to and discussions with Conassif and the President of the Central Bank** to listen to and engage with them, and convince them of the benefits of the revisions to Supen's risk-based methodology.

### 7.3 The benefits for Supen of adopting the revised approach include:

- Adopting a continuous strategic planning process that involves all the processes:
  - Which revises annually the supervision strategies
  - With supervision strategies that go beyond the traditional processes of on-site and off-site supervision
- Identifying risks in a comprehensive manner across the system as well as at individual entities.
- Maximizing the use of supervision resources, to improve efficiency and the focus on the entities with the highest risks and the most serious risks in the system.

- Communicating more transparently to supervised entities, through the medium of the principles and guides of best practices, so as to align entity objectives with those of Supen.

**7.4 The benefits for the supervised entities should include:**

- Promoting a change of culture in the management of the entities, that achieves the adoption of a preventative focus that enables them to adopt the most appropriate measures to mitigate risks
- Strengthening risk management in each entity, alongside greater freedom to develop risk management tools appropriate to their circumstances
- Greater flexibility in regulation, depending on the extent to which Supen validates that they have earned this flexibility
- Reducing the costs imposed by regulation, primarily due to a reduction in information they must supply to Supen.
- Access to training opportunities and materials that should enable them to develop the skills needed to manage risk.

**7.5 For the market more generally benefits should include:**

- Alignment of supervision and entity risk management with international principles, models and recommendations for best practice.
- Greater capacity to adapt to developments in the market, innovations and technological advances
- Improvements in the confidence that affiliates have in the market.

**7.6 The consequential outcomes for the pension system should be:**

- Improved recognition by DB pension funds of their liabilities and the need to balance assets and liabilities to improve solvency, along with the improved governance needed to adjust the pensions promise to reflect reality and sustain inter-generational equity;
- Improved investment governance so as support greater diversification of investment and long-term focus without avoidable down-side risk, with the result of delivering higher risk-adjusted long-run returns;
- Improved governance and risk management more generally so that management are subject to more effective oversight and decisions are made more clearly in the best interests of affiliates and pensioners, hence reducing risk in the system; and
- Improved affiliate understanding of the pension system.

**7.7 The World Bank team would like to thank the Supen team for their excellent work throughout the project – which was a model of collaboration and dedication.** Thanks also go to the industry for consistent and regular engagement. The team hopes that the progressive implementation of the approach developed with Supen will continue to improve outcomes in the years ahead in the service of the current and future pensioners in Costa Rica.